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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

PROFESSOR G. F. STOUT,

WITH THE CO-OPERATION OF PROFESSOR E. B. TITCHENER, AMERICAN EDITORIAL REPRESENTATIVE, AND OF PROFESSOR WARD, PROFESSOR PRINGLE-PATTISON, DAVID MORRISON, M.A., AND OTHER MEMBERS OF AN ADVISORY COMMITTEE.

NEW SERIES.

VOL. XXV.—1916.

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THOMAS NELSON AND SONS LTD. EDINBURGH
KRAUS REPRINT LTD.
Vaduz
1964

Printed in Germany
Lessing-Druckerei Wiesbaden

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PSYCHOLOGY AND PHILOSOPHY

I.—KANT'S VIEW OF METAPHYSICS.

By Archibald A. Bowman.

Few thinkers of the present day would be prepared to assert that there exists, in the sense in which the sciences exist, a body of well-defined doctrine, that men everywhere, and independently of their private convictions, understand as metaphysics. At the same time not a few would explain the differentiating feature in the philosophical attitude by some sort of reference to what is known as the "metaphysical". This reinstatement of a suspected substantive in adjectival terms is characteristic of a change that came over philosophy at the time of Kant, and is expressed in a general dislike of all attempts to stereotype the philosophical as against the mass of human knowledge and experience. It was not so in the preceding era, where even in the most original and revolutionary systems the scholastic apparatus, however modified in the application, continued to impart to philosophy a certain doctrinal distinctiveness strange to modern thinking. Hence we have come to associate metaphysics in a peculiar way with the pre-Critical age. Even for Hegel, who above all others represents the metaphysical tradition in post-Kantian times, metaphysics as a system of rigidly distinct and determinate concepts is a thing of the past—"die alte Metaphysik" he calls it; and in place of it he offers a representation of reality which constantly resorts to concrete adjectival expression in the phrases, "das Logische," "das Spekulative". Hegel too is never tired of pointing out that the content of philosophy is just the common matter of experience, what people see and think and find already formulated for them in

religion and proverbial lore; and if a difference is maintained between "philosophical knowledge" on the one hand and the knowledge of ordinary life or of the sciences on the other, the distinction is limited to a difference, as Hegel puts it, in the *way* of knowing.[1]

From what has been said it is obvious that Kant's summary denial of metaphysics does not close the question, even so far as Kant himself is concerned. Rather, in view of the distinction that has been suggested, it becomes important to notice exactly what it was that Kant denied. As to this there can be little doubt. It was that identical "metaphysic of the past" which Hegel himself could not accept. That is to say, it was metaphysics as previously conceived; and the denial of *this* assuredly leaves open a number of fundamental questions. Does the negation of *metaphysics* imply the exclusion of what we have called the *metaphysical?* Does it not, on the contrary, itself savour of that doctrinal absoluteness which is the constant feature in the otherwise variable connotation of the Hegelian "metaphysic of the past"? Would it be possible to assert that the Critical Philosophy can include among its contents a legitimate denial of metaphysics and at the same time be itself a legitimate metaphysic? Is the denial to be understood only retrospectively, or does the doctrinal substance of it involve a proleptic judgment upon any "metaphysic of the future"?

All such questions may be reduced to a twofold inquiry. First we must consider Kant's own attitude towards the metaphysical, as distinct from the metaphysics which he discredits. In the second place it will be necessary to estimate his conclusions objectively, and particularly to compare them with later developments, with a view to determining the ultimate significance of his position in regard to the questions generally considered metaphysical. The former inquiry will occupy us in the present article: the latter will be reserved for subsequent treatment. Anything like an exhaustive examination of Kant's pronouncements on the subject would be outside the scope of our present purpose. It is our aim to draw attention to an aspect of the matter which in England at least does not seem to have attracted notice at all commensurate with the importance and promise of the topic.

The point in question is the following. In spite of a marked suspicion in regard to anything of a dogmatically speculative nature, the categorical denial of metaphysics is

[1] *Encyklopädie d. phil. Wissenschaften*, §§ 2, 3, 6, 88 (3), and *passim*.

not the outstanding feature in Kant's earlier thinking. It is the peculiar product of the Critical phase of his philosophy, and might be described as the reverse or negative side of that phenomenalism which first obtains adequate expression in the *Critique of Pure Reason*. In the pre-Critical period, represented even by so late a treatise as the *Dissertation* of 1770, *On the Form and Principles of the Sensible and Intelligible World*, metaphysics is taken for granted. This would lead us to expect a fundamental difference in their respective attitudes, between the works that precede the *Critique of Pure Reason* and any subsequent pronouncements on the subject, and suggests the inquiry whether any such radical difference is really discernible.

The view of the *Dissertation*, which is fairly specific, is that metaphysics has to do with reality as revealed to thought in its most general aspects. Kant gives as instances of metaphysical conceptions, possibility, existence, necessity, substance, cause—with their opposites or correlatives; in fact, a partial list of just those concepts which in the *Critique of Pure Reason* appear as the categories. These conceptions are no part of any sensuous representation and consequently are not to be regarded as abstracted from the latter. Rather we abstract them from the inherent laws of the mind by observing its activity in experience. They are thus not innate but acquired.[1]

It is important to notice the sense in which the conceptions of the intellect are conceived as abstract. According to Kant there is an ambiguity in the latter term. We speak of *abstracting from something* and of *abstracting something*. The difference is that in the former case we employ concepts without attending to certain things that happen to be connected with them; whereas in the latter we separate elements which are given only in concrete combination. "Thus an intellectual conception *abstracts* from everything sensuous; *it is not abstracted* from sensuous elements, and perhaps it would be better described as *abstracting* than as *abstract* (*abstractus*). For this reason it is better to designate intellectual conceptions *pure* ideas, those that are given only empirically, *abstract*."[2]

Kant's meaning seems to be that there are certain conceptions which are obtained from actually experienced contents by thinking away some of their aspects; whereas there are others that are acquired not by mentally separating aspects of a single concrete content, but by ignoring any particular

[1] *Dissertation*, § 8. [2] *Ibid.*, § 6.

context in which the content appears. The illustration given in § 8 from the inherent laws of the mind is highly significant, and the phraseology used, when placed alongside that of § 6, offers a clear and striking statement. Taking the two passages together, we have a definition, in negative and positive terms of *attention*, of the conditions that underlie consciousness of the kind of conception with which we are dealing. (1) We do *not attend* to things that may be connected in one way or another with the conception ("quod in conceptu quodam ad alia quomodocunque ipsi nexa non attendamus"). (2) We do *attend* to the *activities* of the concept (*i.e.* to what the mind is actually doing) when experience gives us the opportunity (attendendo ad ejus actiones occasione experientiæ). It is to be noticed, experience merely furnishes the opportunity for the acquisition of intellectual concepts. It does not furnish out of *its content* anything to *their content*. This is just the point in which the intellectual differs from the empirical concept. The content of the former is determined by the mental activity involved.

A further point of importance is the distinction between the *logical* and the *real* use of the intellect. The former has to do merely with the arrangement, in due subordination, of concepts, independently of the source from which they are derived; whereas the real use has to do with the actual derivation of concepts, whether of things or of relations ("... a priori *dantur* conceptus ipsi vel rerum vel respectuum").[1] Metaphysics is concerned with the real rather than the merely logical use of the intellect—by which we are to understand that the original concepts of things and relations (conceptus rerum et relationum primitivi), as well as axioms, are given *originally* through pure intellect itself.[2] The term *given* in this connexion obviously means "given as objects". The intellect is thus the subjective faculty to which the intellectual concepts appear directly as its own intrinsic object ("conceptus tales tam objectorum, quam respectuum, dantur per ipsam naturam intellectus").[3] For the nature of these objects we must refer to the illustrations adduced; but it appears further from Kant's description that they fall into the two classes of things (*res, objecta*) and relations (*respectus, relationes*).[4] It is a little difficult to say whether by the former class is meant anything in the nature of substantival categories (*substantia, causa*), by the latter anything that might be designated modal or relational (*pos-*

[1] *Dissertation*, § 5. [2] *Ibid.*, § 23. [3] *Ibid.*, § 6.

[4] *Cf.* Kant's *Lectures on Metaphysics*, p. 31 (Pölitz, first edition), with which we shall have occasion to deal at length.

sibilitas, *necessitas*, etc.), or whether, on the other hand, any category whatever may be here understood indifferently either in the substantival or the adverbial sense. The latter interpretation is suggested by the somewhat ambiguous position of *causa*, according as we view this as the substantive which sustains the relation or merely (in the manner of the *Critique*) as the relation itself regarded from the standpoint of one of its correlatives.[1] The significant feature is that the intellectual conception, whether in the substantival form or not, in every instance involves the *real use* of the intellect. It looks as if Kant's position in this particular were similar to that of the realist, for whom things and relations are directly apprehended by consciousness as its natural objects, and are both, though in a different way, real.

Whatever ambiguity may attach to the character of some of the examples quoted by Kant in § 8, there can be none as to the conception dealt with in the following section. Here Kant distinguishes two *ends* involved in intellectual conceptions—what he calls a finis *elenchticus* and a finis *dogmaticus*. Of the latter he asserts that according to it "the general principles of the pure intellect, such as are exhibited by Ontology or Rational Psychology (by metaphysics, therefore, in the Kantian sense), terminate in an ideal pattern (*exemplar*), which can be grasped only by the pure intellect and serves as a common measure for all things else in so far as they are realities". This "pattern" Kant designates *Perfectio Noumenon*, and, in its theoretical significance, identifies with the *ens summum* or God. It is also clear that Kant had in mind as another intellectual object in the substantival sense the *mundus* (revealed to the intellect as a definitely determined whole of substantival parts) which furnishes one half of the theme of the treatise. There can be no doubt that Kant's view as to what constitutes the subject-matter of metaphysics includes the topics specifically emphasised in the *Critique of Pure Reason*.

The *ens summum*, we have just seen, is *Perfectio Noumenon* understood in a theoretical sense. But the same noumenal perfection can be interpreted practically, in which event it becomes the idea of moral perfection.[2] "*Moral philosophy*," Kant adds, "in so far as it supplies the first principles of moral judgment, can be known only through the pure intellect, and itself belongs to pure philosophy. . . ." The passage before us leaves it somewhat uncertain whether

[1] Probably the ambiguity is due to the fact that Kant had not yet learnt to distinguish the individual cause and effect from the universal *a priori* law of causality (*v.* Caird's *Kant*, vol. i., p. 175).

[2] *Diss.*, § 9.

"moral philosophy" is to be included under metaphysics. The natural interpretation of the words would imply so, since the theoretical and practical interpretations alike fall under the head of *Perfectio Noumenon*, which is represented as the ultimate goal of such metaphysical disciplines as Ontology and Rational Psychology. Moreover the universe of moral distinctions belongs to the region of what Kant calls the real, in contradistinction to the logical, use of the understanding; and the distinction which he draws between the ideal, on the one hand, as a standard of measure and a principle of knowledge, and God, on the other, as actually existing, and consequently as a principle both of knowledge and of being, is not relevant in this connexion.

In pursuance of our design of comparing some of Kant's pre-Critical utterances on the subject of metaphysics with some of his later pronouncements, we turn now to a source which insufficient, though not incompetent, editing left for long a somewhat uncertain quantity. The volume, *Immanuel Kant's Vorlesungen über die Metaphysik*, issued anonymously in 1821, and under the editor's name in a second edition of 1830 by the Leipzig professor, Pölitz, was long treated by commentators with reserve.[1] The lectures are expressly omitted by Hartenstein from his second edition of Kant (1867), and are referred to by Vaihinger as requiring caution in the use.[2] The essential value of Pölitz's publication has, however, been clearly established by Max Heinze in his volume, published in 1894: *Vorlesungen Kants über Metaphysik aus drei Semestern.* This contains a valuable "Beschreibung" of five MSS. which in part certainly furnished Pölitz with his original,[3] and in part supply confirmatory evidence. Of equal importance are the investigations of Emil Arnoldt, published in collected form in the same year as Heinze's volume, which provide invaluable guidance to the use of the material.

The value of the *Lectures* as throwing light upon the ultimate purport of Kant's Critical Philosophy depends, like the value of other supplementary matter, upon two factors. First, the content must be considered with strict reference to the officially published expression of Kant's views.[4] In

[1] French translation by Tissot. [2] *Comm.*, i., p. 22.

[3] The Ontology appears to have been from the MS., L 2 (Heinze, p. 502), which wants this division. It is Heinze's opinion that the missing division was excised from the MS. for printing, and never returned.

[4] Of the right to assume that reported matter is to be taken to represent Kant's own standpoint, Arnoldt says: "This is so only in the case of views agreeing with opinions made public by Kant subsequent to 1781. On the other hand, views which do not thus agree must be differently treated" (*Krit. Excurse*, p. 403).

the second place (a subject which again involves to some extent the evidence of content [1]) the dates of the lectures will have a fundamental importance in determining their significance.

On this latter point there has been a diversity of opinion. The three MSS. which Heinze designates L 1, K 1 and H, covering between them the content of Pölitz's work, are, in spite of divergences,[2] obviously to be attributed to a single ultimate source.[3] Erdmann, who had previously "described" K1,[4] but to whom H was at the time unknown, places the MS. not earlier than the winter of 1773-1774 and "scarcely much later"; but Arnoldt and Heinze, on evidence which seems conclusive, fix the date towards the end of the decade.[5] It is in accordance with this that Heinze emphasises the general agreement of the *Lectures* with the *Critique of Pure Reason*, while Erdmann emphasises the divergences, which he associates with Kant's position at the time of the *Dissertation* of 1770.[6]

Of the other MSS.[7] L 2, which Heinze thinks may have been a "Nachschrift," [8] can be shown on strong presumptive

[1] Where the date has really to be determined upon evidence and without conclusive external data, it is impossible to ignore subject-matter. This introduces the difficulty of interpretation, which again calls for the evidence of dates. It is therefore a sound principle laid down by Arnoldt (*op. cit.*, p. 416) that the first endeavour must be to exhaust external evidence. The differences of Arnoldt and Erdmann illustrate the extreme need for discrimination in the comparison of content.

K 1 and H are nearer to each other than to L 1.

[3] Heinze considers that they can hardly be "Nachschriften" of the lectures as actually delivered, but must be "Abschriften" of some intermediate copy.

[4] *Eine unbeachtet gebliebene Quelle zur Entwicklungsgeschichte Kant's:* Phil. Monats, 1883, and *Mittheilungen über Kant's metaphysischen Standpunkt in der Zeit um*, 1774: Phil. Monats, 1884.

[5] Arnoldt somewhere between 1778-1779 (or more probably 1779-1780) and 1784-1785 or perhaps 1783-1784 (*Krit. Excurse*, p. 421).

[6] Arnoldt's cogent argument is based on the principle that copies which do not agree with writings published from the year 1781 on, must not be uncritically inferred to belong to an earlier date, especially when copies with similar contents are found after 1781 (*Krit. Excurse*, p. 404). The use which Erdmann makes of the supposed resemblance between the view as to the "knowledge of the understanding" in the *Dissertation* and in the Korff MS. (K 1) is invalidated by the fact that this view is not sufficiently explicit in either the one or the other, and is moreover based on misapprehension (p. 406 *sq.*).

[7] Arnoldt had knowledge of K 1 and K 2, as well as of Pölitz's editions of the lectures. He gives an account of a further MS. inscribed: "Bemerkungen über Metaphysik nach Baumgarthen, aus dem Vortrage des HE. Prof. Kant pro 1794-95" (p. 401).

[8] Pp. 503-505. The MS. is inscribed, apparently in a different hand: "Logik und Metaphysik von Kant. Ein Collegium ann. 1798 nachge-

evidence to belong to the year 1790 or 1791; while K 2, which may also have been a direct transcript,[1] belongs on external evidence to the early nineties, and possibly to the year 1793-1794.[2] Apart from the precise determination of the semester, it has been abundantly proved that in these MSS. we have an exposition of metaphysics belonging to Kant's later Critical period and to the closing years of his academic activity.

The exact significance to be attached to the lectures as an expression of Kant's own standpoint, particularly in view of the fact that for purposes of exposition he follows Baumgarten's division of the subject-matter, will therefore depend in the last resort on the previous consideration—the mutual bearings of the lectures and the published work.[3] As a matter of fact the necessity of accommodating his teaching to a text-book representing a different point of view resulted in anomalies and imperfections of exposition which must be admitted.[4]

Two points in particular deserve to be noticed. First Kant's ultimate acceptance of Baumgarten's division as proximately adequate to the purpose he had in view would seem to be implied in the fact that whereas at an earlier stage, under the influence of empiricism, he had departed from this arrangement,[5] he eventually reverted to it.

In the second place it must be seriously asked whether on intrinsic grounds Baumgarten's division does not readily adapt itself to views which in their main features we are entitled to describe as Kant's own—whether in fact the "Architectonic of Pure Reason" is not a significant analogue of the logic of Kant's whole position.

Kant makes it abundantly clear that the *problem* of metaphysics becomes at a certain point one with the problem of knowledge; but this does not mean that the Critical *theory*

schrieben." Heinze shows that the date 1798 is probably a mistake for 1790, inserted in minute figures in an ornamental scroll at the end. Of course in the case of MSS. which are not a direct transcript there is a double question, the date of the copy and the date of the lectures.

[1] Heinze, p. 506. Arnoldt is of opinion that it is a fair copy carefully prepared from notes.

[2] *Ibid.*, pp. 507-508.

[3] Importance must be attached to the adoption of Baumgarten's division in the "Architectonic of Pure Reason"—*Critique of Pure Reason*, Method of Transcendentalism, chap. iii. In the lectures Kant merges the departments of Rational Physiology and Cosmology.

[4] Arnoldt mentions the absence of a proper separation of the Analytic and the Dialectic, and the variations which appeared in different semesters in the division of metaphysics. As regards the first point the significance of the omission will become apparent as we proceed.

[5] *Nachricht von der Einrichtung seiner Vorlesungen in dem Winterhalbenjahre von* 1765-66.

of knowledge furnishes a complete solution (whether negative or otherwise), to the former problem. *The Critique of Pure Reason*, emphasising the limitation of knowledge to the object of sense, naturally makes the most of the distinction between *knowability* and *thinkability*, the subject-matter of the supposed science of metaphysics being expelled from the province of the former and confined to the latter. Now Erdmann uses the emphasis upon this distinction, or the reverse, as a criterion by which to test the nearness or remoteness of the lecture MS. with respect to the *Critique*.[1]

To the use of this highly characteristic feature as signalising in a special way Kant's position in the latter of course no exception can be taken. But the absence of the distinction in the form of that acute antithesis so characteristic of the *Critique*, or the appearance in its stead of another antithesis, that which emphasised, for example, not the distinction of the knowable and the merely thinkable, but that of the theoretical and practical aspects of *knowledge*, cannot in itself be taken as indicating any considerable priority of date. In order to make good any such inference it would be necessary to show that Kant, after defining knowledge as he does in the *Critique*, with strict reference to that which gives it concreteness or applicability in experience on the one hand and scientific universality on the other, continued to interpret the conception exclusively in this highly specialised sense. This would involve the refusal to apply the term knowledge or science seriously to any science of pure concepts—to such a science, for example, as logic, and indeed, what is of even greater importance, to the science which for Kant was the very pattern of genuine knowledge—mathematics.[2] And obviously under-

[1] *Eine unbeachtet gebliebene Quelle*, etc., p. 142.

[2] How far Kant himself realised this latter point is a difficult question; but undoubtedly the point is implicit in his position. Kant really never does seek to authenticate mathematics on the ground of actual empirical verification, but only on the ground that the science deals with *space*, which is a *formal* aspect of experience—"die Form der Anschauung". When we look a little closer, however, it appears that the subject-matter of mathematics is not really "the form of intuition" but "the formal intuition"—"die formale Anschauung"—*i.e.* space itself intuited as an object. It is obvious that this conception involves a serious change of standpoint. Strictly speaking an intuition in the Kantian sense means that which is given in sense; but now we must understand by the term an intuition which is *mediated by* but does not *consist of* the sense element. How this is to present itself in consciousness is not easy to see—unless it be in the form of pure *a priori concepts*. Perhaps there is more than a verbal necessity in Kant's continual reference to space as a *Begriff*—in contradiction to his express declaration in the *Æsthetic*. The

lying Erdmann's contention there is an assumption that Kant is using the word "knowledge" exactly as determined in the earlier parts of the *Critique of Pure Reason*.

For instance, he argues for the relative approximation of the lectures he discusses to the *Dissertation* on the strength of passages which he quotes, as follows: '"A pure use of reason . . . is one applying to objects that are in no sense objects of the senses," where, consequently, "the rule is not established through experience". "Hence," he says in another passage, "we can say, *so far as matter is concerned* there is nothing in the understanding which was not present in the senses. But when we consider the form there is a kind of knowledge which is purely intellectual, which has nothing to do with any object of the senses." Hence we have "also a principle of knowledge through conceptions (*Begriffe*), which contain no element derived from the senses. In other words, we have knowledge of objects, without being in any way affected by sensations. These are intellectual conceptions."'[1]

The construction which Erdmann puts upon these passages is given in what follows. 'Thus in spite of the universal terms in which the limitation of the categories to objects of possible experience is expressed, in spite of the denial to the categories of any transcendent use, Kant holds fast to an intellectual knowledge of things in themselves through the conceptions of the understanding. . . . We must continue to emphasise the fact that in the *Critique of Pure Reason* too the thinkability of objects in general as of things in themselves through the pure understanding is still maintained. What we here find is a similar contradiction to the Critical limitation of the understanding. The only difference is that in the earlier work the contradiction is enormously more abrupt and sharp. For whereas in the *Critique* it is only the *thinkability* of the problematical object that Kant continues to asseverate, in the lectures he still expressly maintains the

following passage from the Lectures is worth quoting: "Die ganze Mathematik ist eine Wissenschaft, die blosse Begriffe *a priori* enthält, ohne dass sie den Grund auf die empirischen Begriffe stützt". Pölitz, p. 18 (first edition, as throughout). In the preceding page we read: "Wenn wir alle reine Begriffe, die ganz von den empirischen abgesondert sind, zusammen nehmen, so bekommen wir dadurch eine Wissenschaft. Die philosophische Erkenntniss besteht aus blossen Begriffen *a priori*." Since by "philosophical knowledge" Kant means the knowledge which forms the content of metaphysics, the collocation of this and mathematics is striking—provided, that is, a good case can be made out for taking the *Lectures on Metaphysics* seriously.

[1] *Eine unbeachtet gebliebene Quelle*, pp. 141-142.

knowability of things in themselves through the pure use of the understanding.'

Now, as already indicated, the degree of force to be attached to the antithesis on which everything is here made to turn will depend largely upon Kant's use of the term "Erkenntnis" subsequent to the *Critique of Pure Reason*, and as to this there can be no uncertainty. So far as Kant's actual usage is concerned, there is no need to make the alternation of sense-determined *knowledge* and the *thought* of the "object in general" or the thing in itself exhaustive. In the treatise *Ueber die Fortschritte der Metaphysik*, for example, the constant antithesis is not that of knowability and thinkability but that of theoretical and practical knowledge, or that between *knowledge* in the Critical sense and *knowledge* in a sense which includes the problematical objects of metaphysics.[1] If we take this into consideration it would seem to give us grounds for seriously diminishing the significance of the differences which Erdmann emphasises between the position of the *Critique of Pure Reason* and the Ontology of the Korff MS.

For these various reasons, having to do with the chronology as well as the content of Kant's academic lectures, we must conclude that a guarded use of Pölitz's volume, so far from being nugatory, is absolutely essential to the solution of a problem which the *Critique of Pure Reason* leaves in considerable obscurity.

To turn now to the lectures themselves, we notice in the first place the general division, corresponding exactly, as has already been remarked, to the division in the "Architectonic of Pure Reason". It is further worthy of notice that in the *Lectures* Rational Cosmology precedes Rational Physiology, and of the two subordinate divisions of the latter, Rational Physics and Rational Psychology, only the latter is accorded a detailed treatment. What is more important, the treatment closely follows that of the Dialectic, not only in the detail of exposition, but in the general character of the judgment which Kant passes upon the cogency of the arguments involved. The only real difference is a difference of emphasis. In the *Critique of Pure Reason* Kant emphasises the invalidity of the arguments, when interpreted as objective demonstrated knowledge. In the *Lectures* he lays stress upon the trustworthiness of subjective grounds of certainty. In this connexion the following passage deserves quotation. "The knowledge of God has never been more than a necessary

[1] *V.*, *e.g.*, passages W. viii. (Hartenstein's second edition, as throughout, unless otherwise indicated), pp. 534, 535, 538, 541, 549, 553, 554, 555.

hypothesis of the theoretical and practical reason." [It is significant that the theoretical and practical grounds of belief in God are here placed on the same level.] "But although that knowledge never amounts to anything more than a necessary presupposition of reason, still it has practical certainty, or a degree of credibility such that, even although it be incapable of demonstration, he who wishes to use his reason and free will must necessarily presuppose this knowledge, if he does not wish to act like a beast or a miscreant. But to all intents and purposes a necessary presupposition of our reason is the same thing as necessary truth.[1] Consequently the subjective grounds of the necessary presupposition are just as real as the objective grounds of certainty. Such a necessary hypothesis is called Belief or Faith (*Glaube*). Thus although we cannot prove the existence of God and of the future world, still we have a subjective ground for assuming them. . . . The firm Belief, granted only that it expresses some necessary condition, is so exceedingly sure, and rests so firmly on its subjective grounds, that nothing based upon objective considerations can be more thoroughly established in the soul.

"The firmness of this presupposition so far as the subject, if not the object, is concerned, is just as strong as the first objective demonstration in mathematics."[2]

It will be seen then that the metaphysical science of Theology as presented in the *Lectures* does not pretend to the objective character of knowledge as defined in the *Critique of Pure Reason.* This brings the doctrine of the *Lectures* exactly into conformity with Kant's Critical epistemology. On the other hand the *Lectures* assume a very definite attitude on the general question of orientation. Belief in God is as firmly grounded as is knowledge of objects. Only, the grounds are different. How then are knowledge and belief or faith related? In a way which, upon analysis, turns out to be identical with that which we discovered in the *Dissertation.* There, we saw, Kant represents *Perfectio Noumenon* as an ideal type in which the principles of the metaphysical sciences of Ontology and Rational Psychology culminate. This is the "end" or goal of intellectual conceptions—*i.e.*, it is the ultimate conception which gives them meaning. With this view that of the *Lectures* is substantially in agreement. Here Kant expressly represents Rational Theology as

[1] "Was nun aber eine nothwendige Voraussetzung unserer Vernunft ist, das ist eben so, als wenn es nothwendig wäre."

[2] *Pölitz*, pp. 266-267.

"the end and final motive of metaphysics".[1] And he continues: "The object of all our experiences and empirical conceptions is this world; our knowledge extends no farther than experience leads us; in this knowledge, however, we can reach the limits of these experiences. *The limits of this world* a parte ante *and* a parte post *are God and the other world. God is the limit* a priori, *and the future world the limit* a posteriori. But for these limits all metaphysical speculations were in vain *and of no utility at all.* All the speculations of philosophy are related to these two limiting conceptions (*Grenzbegriffe*); hence these would not be necessary could we not learn from them what precedes and what follows the world. All outside the world is the *cause* of the world and the *sequel* of the world—two things which are very intimately bound up together. The *world in general* has been estimated in the Cosmology, the *sequel* of the world in Rational Psychology, and the *cause* of the world will be estimated in Rational Theology. The knowledge of God is thus the aim and final motive of metaphysics. Indeed we might say: metaphysic is a science of pure reason in which we try to determine whether it is within our power to discern a cause of the world" (pp. 262-263).

What Kant actually says here is that Rational Theology, along with that part of Rational Psychology which deals with the immortality of the soul, is the culminating point of *metaphysics*—that which gives significance to the *rest* of philosophy; in other words, to Rational Cosmology. But underlying his words is apparently an idea, really paramount in his thought, although he does not succeed in giving it exact expression, to the effect that not only metaphysics but *experience* and that *knowledge* which Kant defines as relative to experience, culminate in a science dealing with God and the future world. The significance of the distinction for our inquiry lies in the fact that since the question before us is whether and to what extent Kant acknowledges metaphysics as a legitimate science in any sense at all, it helps us very little to be told that *metaphysics* culminates in certain doctrines, the case is very different if we are to understand that *knowledge*, in the sense in which Kant conceives it, acquires its meaning from these same doctrines, and consequently from metaphysics. If this latter is the case, the question arises irresistibly whether Kant can possibly withhold the name of *Knowledge* from a *scientific* doctrine (he acknowledges it to be such) from which knowledge itself, as actually defined

[1] "den Zweck und die Endabsicht derselben."

in terms of experience, ultimately derives such meaning and intelligibility as it has.

Before we can hope to answer this question a further point demands elucidation. In describing the "knowledge of God" as the end and aim of metaphysics, Kant speaks as if the remaining part of the subject were comprised in Rational Cosmology,[1] and it is obvious why he does so. The problem of God arises naturally out of our consciousness of the limits of the world. But the subject can hardly be considered exhausted until we have considered metaphysics as a whole (and therefore Ontology) in relation to the doctrine in which it is said to culminate. Our final problem consequently has to do with Kant's conception of Ontology as an integral part of metaphysics.

In defining the subject-matter of metaphysics in the *Critique* as God, freedom and immortality, Kant is obviously limiting metaphysics to its culminating conceptions—to what in the *Dissertation* he represents as the "end" of all its principles, *Perfectio Noumenon*. Clearly however this "end and aim" is not the whole theme of metaphysics. In the *Dissertation* there is the part exemplified by the conceptions of possibility, existence, necessity, etc.; and in the "Architectonic of Pure Reason," as in the *Lectures*, there remains Ontology to be accounted for. It is moreover obvious that in the *Dissertation* the list of illustrations refers to the same subject-matter treated of under the head of Ontology in the *Critique* and the *Lectures*. So far all is simple and intelligible. Such differences as may be detected between the earlier work and the later are easily accounted for by development. The really anomalous feature is the position of Ontology in the *Critique of Pure Reason*. To each of the other three metaphysical sciences there corresponds a division of the Dialectic, in which the supposed science is treated from the specifically Critical point of view; and, as we have seen reason to believe, there is no fundamental departure from this point of view in the *Lectures*. The question therefore arises: Why

[1] While according the two separate treatment, Kant seems to regard Rational Psychology as ultimately a subdivision of Rational Cosmology. In p. 18 (Pölitz) he mentions only Ontology, Cosmology and Theology as the chief metaphysical sciences; and he adds a few lines farther on: "Cosmology is the view we get of the world through pure reason. The world is either a corporeal- or a soul-world. Thus Cosmology contains two parts. . . . There is . . . a doctrine of bodies and a doctrine of souls. Rational Physics and Rational Psychology are the two main divisions belonging to general metaphysical Cosmology" (*cf.* pp. 125-127).

is it that there is no place in the Dialectic for a treatment of Ontology, analogous to that accorded Rational Cosmology, Psychology and Theology? The answer is that roughly speaking Ontology finds its equivalent in the Transcendental Analytic. Let us see how this is so.

There is no lack of explicit statements as to Kant's interpretation of Ontology or, as he also calls it, Transcendental Philosophy. In the *Lectures* we find the following: "*Ontology* is a pure doctrine of the elements of all our knowledge *a priori*. In other words, it contains the sum of all the pure conceptions (*Begriffe*) which we can have of things *a priori*" (p. 19). "Ontology is the doctrine of the elements of all my conceptions which my understanding can have *a priori*" (p. 20, *cf.* p. 77).[1] "The first and most important question in Ontology is: *How is knowledge* a priori *possible?* This question must first of all be resolved; for the whole of Ontology is based on the solution" (p. 20).

A problem that at once arises out of this statement is the relation of Ontology to the Criticism of pure reason. Kant's words on page 18 afford no clue to any distinction; for he declares that the science which answers the question how *a priori* knowledge is possible *is* Criticism of pure reason. This would seem to imply that Kant identified Criticism with Ontology; but such was obviously not his intention. For in the sentence that follows he goes on to speak of Transcendental Philosophy as if it were something distinct.[2] "Transcendental Philosophy is the system of all

[1] Arnoldt, p. 446. *Critique of Pure Reason:* "Die erstere (Transscendentalphilosophie) betrachtet nur den *Verstand* und Vernunft selbst in einem System aller Begriffe und Grundsätze, die sich auf Gegenstände überhaupt beziehen, ohne Objecte anzunehmen, die *gegeben wären* (Ontologia)" Kehrbach, p. 637. The idea that conceptions in the sense understood are not innate but acquired by the attention of the mind to its own activity (*v. Dissertation*) recurs in the *Lectures*, pp. 20-21. *V. Critique of Pure Reason*, Introduction to second edition, for the distinction between knowledge as *beginning with* experience and *originating in* experience; and *cf.* A Stadler: *Die Frage als Prinzip des Erkennens*, Kantstudien, vol. 13, on the point. Also *Prolegomena:* "So ging ich an die Deduktion dieser Begriffe, von denen ich nunmehr versichert war, dass sie nicht, wie Hume besorgt hatte, von der Erfahrung abgeleitet, sondern aus dem reinen Verstande entsprungen seien" (Reclam, p. 35). The text of the *Lectures* on the point is obscure and unsatisfactory: "Alles was man hievon sagen kann, ist dieses: dass es gewisse Erkenntnisse *a priori* giebt, wenn es auch gleich scheint, dass sie aus der Erfahrung genommen, oder dass sie über die Grenzen der Erfahrung gebraucht worden".

[2] In the *Nachschrift* of 1793-1794 Transcendental Philosophy is distinguished from "Kritik der reinen Vernunft," as "Kritik" is distinguished from "Metaphysik" in the *Architectonic*. According to this classification "Reine Philosophie" is divided into 1. Logik, 2.

our pure knowledge *a priori*. It is commonly known as *Ontology*. Ontology thus deals with things in general. It abstracts from everything" [. . . "empirical or from everything given through experience," adds Arnoldt].

Kant goes on to distinguish between analytic and synthetic judgments, indicating the importance of the former in philosophy, especially in ethics,[1] and concluding with the question: "How are analytic judgments possible *a priori?*" The question is followed by one as to whether philosophy contains synthetic judgments *a priori*. This is answered by the proposition that such judgments occur in philosophy "through conceptions," in mathematics, "through the construction of conceptions". From this point on it is obvious that Kant is stating the Critical position of the Analytic in briefest outline. Experience consists of synthetic judgments. "*A priori* knowledge is not possible through experience. On the contrary it is only through *a priori* knowledge that experience is possible" (p. 26). All knowledge involves both conceptions (*Begriffe*) and intuitions, and these presuppose each other.[2] "All conceptions have their origin *a priori* in the formal aspect of the use of the understanding" (p. 27). Thereupon follows the table of the categories. Intuitions and conceptions must occur together *a priori* as a condition of knowledge. "The explanation of the possibility of pure conceptions of the understanding we designate *deduction*. Deduction is, strictly speaking, the answer to the question: Quid juris? The deduction of the pure conceptions of the understanding is a proof of the validity of the pure conceptions of the understanding" (p. 29).

In the following section, "On Ground," the distinction of the *Dissertation* between the real and the logical use of conceptions reappears in the initial distinction between ground and consequent on the one hand and cause and effect on the other. The interesting feature is that Kant here again represents the distinction as one between logic and *metaphysics*. The conception of ground belongs to metaphysics only in the form of the causal concept. This at once suggests that the distinction between logic and metaphysics, as here understood by Kant, is just the distinction between formal and transcendental logic—which would go to confirm our

Kritik der reinen Vernunft, which is a propædeutic to 3. Transcendental-Philosophie.

[1] "Die ganze Moral bestehet fast aus lauter analytischen Urtheilen," p. 25.

[2] *Cf.* p. 29: "Anschauungen ohne Begriffe, und umgekehrt Begriffe ohne Anschauungen, geben keine Erkenntnisse".

identification of Ontology (Transcendental Philosophy), generally speaking, with the substance of the Analytic.

It is in connexion with the distinction between the logical and the real ground that Kant introduces the specifically Critical question (in the narrower sense) as to the possibility of synthetic judgments *a priori* (pp. 32-33); and his treatment of this question is the crucial point on which everything turns. According as we can or cannot accept Kant's statement as compatible with the strictly Critical position, we must acknowledge or reject the views on metaphysics expressed in these lectures as representing an integral part of his own thinking. And it must be confessed that his words present considerable difficulty. The main question turns upon what, superficially regarded, might appear a purely formal matter of statement. We might say that on the whole Kant's tendency in the *Critique of Pure Reason* is to represent the judgment which constitutes the form of knowledge as having for its subject either the actual material of sense or something ultimately referable to this material, and for its predicate the conceptual qualification of the former. Here, however, the order appears to be reversed. "Through (the) senses (*durch sinne*) we can know only the properties (*eigenschaften*) or predicates of the object. The object itself lies in the understanding. (Das Object selber liegt im Verstande.)" These words suggest that what Kant has in mind is the "Object *an sich*"[1]—the object as it exists in itself and is known through the intellectual concept independently and in spite of any contradictions which experience may offer to it; in a word, the intellectual concept of the *Dissertation* or the "transcendental object" of the *Critique of Pure Reason.* And indeed it would be needless to dispute the fact that in the "object itself" we have the *equivalent* of the intellectual concept—*i.e.* the conception which at the period of the *Lectures* occupies the place previously occupied by the intellectual conception of the *Dissertation.* This admission is bound up with our attempt to establish a continuity of metaphysical doctrine between the *Dissertation* and the *Lectures.* On the other hand if this continuity is pushed too far, we are confronted with the conclusion that since the teaching of the *Dissertation* has been superseded by the Critical Philosophy, the content of the *Lectures* will have to be represented as a mere survival of an abandoned thesis, revived by Kant for historical or pedagogical reasons, but

[1] Kant does use the phrase: "von dem Object als an sich bestimmt".

not intended seriously to represent his own thought at the period with which we are dealing. Needless to say, such a conclusion would be as fatal to our whole contention as would the opposite view which overlooks the element of continuity in Kant's teaching. Our problem would therefore seem to be to determine exactly how the "object itself" is to be understood, and particularly whether the method of representing the judgment, diametrically opposed to that of the *Critique of Pure Reason*, is to be taken as indicating any decisive difference of view point.

An obvious consideration is here of importance. While it is true that the judgment in which the subject is represented by the intellectually constituted object (the object as thought), and the predicate by the sensuous qualification of the latter, reverses the Critical method of conceiving knowledge, it is equally true that in the *Critique* the object (*i.e.* the *substantival* theme of knowledge) can hardly be said to be touched upon except in the most ambiguous way. The fact is that Kant's Critical theory of knowledge, what is known as his phenomenalism, rendered it a matter of difficulty to find room within the limits of the knowable for anything sufficiently substantival to merit the name of object. As for the "transcendental object," it is either a survival of pre-Critical thinking or else a highly inappropriate name for the thing in itself. The intellectual object of the *Dissertation* had combined the substantival and independent existence of the thing in itself with the attribute of knowability. The *Critique* dissociates knowability from any such unconditioned substantival existence, and in the dissociation the *object* becomes a problem. As a result of the ambiguity thus introduced, we find the substantival conception of the *object* virtually superseded by the adjectival conception of the *objective*.[1] Under a phenomenalistic theory of knowledge it is difficult to say what the object can be; but it is a natural and intelligible procedure to define knowledge, in terms of its universal and necessary character, as objective.

Now this of itself suggests that the position of the *Lectures*, acknowledging as they seem to do the validity of a science of metaphysics, may not be so far removed from that of the *Critique*. If the *Lectures* merely speak of *object* where the *Critique* speaks of *objective*, the reversal in the

[1] It would be a useless task to determine from Kant's very numerous and divergent statements in the *Critique* whether the character of objectivity is to be defined in terms of the verification or substantiation of universal principles by experience, or on the other hand in terms of the universalisation of experience by intellectual principles.

method of formulating the judgment may not be of vital significance. In both cases we should have a statement to the effect that the condition of objectivity is conformity to the universal principles of thought which underlie experience —the categories. This is really the crucial point, and, as it happens, there is no ambiguity in Kant's statement of it. The object to which he is referring is expressly distinguished from the thing in itself, and the knowledge contained in the judgment is as expressly identified with the content of experience. "Representations [*Vorstellungen* = "conceptions derived from experience"] in so far as they are not related to an object, are merely predicates of possible judgments. If they are to be related to an object, I must contrive to form a judgment, in which I shall relate them to the object. Now knowledge is empirical knowledge, or the relation of representations to an object. It is thus only possible through judgments, and indeed its form must be decided for it (*bestimmt*).[1] The conceptions which decide the form of judgment in reference to every object are the pure conceptions of the understanding or categories, and these are thus the *ground of the possibility of all experience.* It is they that decide whether any object shall be amenable to the form of *a priori* judgment."[2]

It is noteworthy that in approaching an answer to the question how synthetic *a priori* judgments are possible Kant proceeds to indicate the *ground* of experience. He continues (p. 35): "The *Principium rationis sufficientis* does not apply to any conceptions whatsoever but to the senses. . . . It cannot be derived from mere conceptions. It is possible *a priori* through the relation of the conceptions in respect to a possible experience (durch das Verhältniss der Begriffe in Beziehung auf eine mögliche Erfahrung). The principle of sufficient reason is a principle on which possible experience rests. The ground is that according to which, given one thing, something else follows according to universal rules.

[1] Kant is referring, by way of contrast, to a previous statement where we have mention of a kind of judgment which is not thus determined, and consequently gives no knowledge. "Alle Erkenntniss besteht aus Urtheilen. . . . In Ansehung der Begriffe, die von den Sinnen hergenommen sind, ist's einerley, in welcher Form ich urtheile. Sollen sich aber die Vorstellungen auf ein Object beziehen; so ist's nicht mehr einerley, in welcher Form ich urtheile; weil sie von dem Object als an sich bestimmt werden."

[2] "Sie sind das, was allen Objecten die Form der Urtheile *a priori* bestimmt" (p. 33). A few lines farther on Kant defines experience as "nothing else than a knowledge of the object through sense representations".

Experience is possible only through *a priori* conceptions of the understanding. Synthetic judgments are never valid of actual things in themselves, but only through experience. All experience is synthesis, or synthetic knowledge of things which are objectively valid. The principle of the empirical necessity of the connexion of all representations in experience is a synthetic knowledge *a priori*."

This passage should clear away any remnants of doubt as to Kant's meaning. His position here is evidently unambiguously Critical. The object in itself of the *Lectures* is an object at all only in contrast to the subjectivity of mere sensation. That is to say, it is any element in a judgment, which is certified by the universal principles on which experience, as contrasted with sensation as such, depends. There is no departure from the phenomenalistic conclusions of the *Critique*. If therefore our contention that phenomenalism and the critical negation of metaphysics are one and the same thing, is justified, we are confronted with the singular fact that in these lectures, which, so far from *denying*, appear to *assume* and pretend to *unfold* a science of metaphysics, Kant's position is still phenomenalistic. If there is any contradiction here, obviously it is not his phenomenalism (his most characteristic doctrine), that must go. But it does not follow that the only alternative is to assume that his account of metaphysics must be taken as a purely historical exposition of doctrines already discredited by his fundamental tenet. There remains a further possibility. May it not be that Kant's denial of metaphysics is to be taken only under certain specific conditions defined in the *Critique of Pure Reason?* If so, may not metaphysics stand good even on a phenomenalistic theory, provided these conditions be fulfilled? Let us consider whether the *Lectures* throw any light on these questions.

One very obvious item in the solution is to be found in the fact that Ontology, which as early as the *Dissertation* and as late as the *Lectures* Kant includes in the list of metaphysical sciences, has been identified with Transcendental Analytic, and must therefore be considered as a portion, and the most crucial portion, of Critical doctrine itself. Kant's denial cannot apply to this part of metaphysics. Confining ourselves, therefore, to the three remaining sciences, we must ask whether there is a sense in which Kant's phenomenalism allows him to grant complete validity to these. In the *Critique of Pure Reason* the dialectical fallacy springs from the error of conceiving the subject-matter of the metaphysical sciences as things in themselves. And we have seen that

Kant does not attempt to present that subject-matter as such in the *Lectures*. On the other hand, since it is impossible to include God, the self and the world as a totality in the list of presented phenomena, we cannot claim for them the knowability which Kant expressly limits to the phenomenal. If then the condition of knowability is defined strictly and exhaustively in reference to the alternatives of phenomenon and thing in itself, the question must be regarded as settled. But this would be to overlook the important, though too little emphasised distinction which Kant himself draws between formal and material *knowledge*. It is only within the universe of *the latter*, determined by the *de facto* character of experience, actual or possible, that the alternation in question is exhaustive; and on the strictest application of Critical principles it still remains open to us to *know* God and the world, though *neither as phenomenon nor as noumenon*. That is, *we can know then as a logical necessity or implicate of all that we otherwise know of phenomenal reality*. This conclusion at once in a sense places Ontology or Transcendental Analytic and the three remaining metaphysical sciences on one level of knowability. For if the absence of material content in the logical knowledge of God and the universe disqualifies the latter, it ought for the same reason to disqualify the former. Doubtless there is an important distinction to be recognised. The content of Transcendental Logic may be claimed as knowable on the ground that it furnishes the constitutive intellectual principles of experience, and is consequently capable of *deduction;* whereas no such claim can be made for the remaining sciences. But without diminishing in any way the distinction between constitutive and regulative principles, or between that which does and that which does not admit of transcendental deduction, it must be maintained that in so far as knowability is claimed for any of these principles, the phenomenalistic formulation of knowledge is just as fatal, or just as irrelevant, in the one case as in the others. And this is all that is required in order to secure for Kant the right to maintain at once his phenomenalism and a belief in metaphysics.

It remains only to state in a definite way the sense in which on Kantian principles metaphysics is possible, and to indicate the relation between the latter and the body of Critical doctrine. And first of all it must be noted that when Kant denies the pseudo-science of metaphysics, dealing with a supposed thing in itself, he is denying a body of doctrine which, from the very terms in which it is formulated, must be understood as a self-contained and inde-

pendent system of truth. Now it is easily seen that such independence and isolation is bound from the Critical standpoint to be fatal to any theory which demands verification in experience. But the question naturally arises whether the metaphysical teaching which, as isolated dogma, must be rejected, is not capable of restatement in such a way as to bring it directly or indirectly into relation with that knowledge of experience which is the touchstone of truth. Kant's answer is given partly in the speculative *tour de force* by which he incorporates one branch of metaphysics in the Criticism of pure reason itself, and partly in the later Critical writings, which establish the *logical* as well as the subjective necessity of a belief in God.

In view of these considerations the following conclusions seem warranted, and the general method of statement in the *Lectures* appears to add the confirmation required. (1) The Criticism of pure reason, issuing in phenomenalism, includes the logical presuppositions of the latter, and therefore a body of doctrine which, whether it is designated Ontology or Transcendental Analytic, can only be characterised as metaphysical. Metaphysics is, therefore, *an integral part* of Criticism. (2) The Criticism of pure reason, as the *Lectures* imply by including this theme, is *a part of metaphysics*. It is the part which has to do with human knowledge under the conditions which give the latter a material content. It is *only a part*, because it does not contain the principles which determine its own ultimate significance. These are to be found behind and beyond the actuality of experience; and although, so long as we are limited to the conditions of human knowledge, we can never hope to know the substance of these principles, they are presupposed in the logic arising out of human experience as such.

When this has been said, there remains an explanation and an admission to be made. The present article has almost entirely passed over the vast and vastly significant development which Kant's thinking underwent between the *Dissertation* and the *Lectures on Metaphysics;* and it might be inferred that its object was to minimise the differences in view-point separating the earlier from the later teaching. This is not so; but we have still to point out the extent to which the difference has been by implication acknowledged. The grounds on which we have tried to establish Kant's recognition of metaphysics may be summed up in his attempt (decipherable as an ever-growing quantity in his later work) to integrate the various phases of philosophy, and above all to connect the phenomenalism of his Critical position with

the great metaphysical principles on which the significance of man's existence depends. Now this, which we may call the synthetic tendency in Kant, is by no means to be taken as the one fundamental characteristic of his thinking. Alongside it at every step is to be detected another tendency, which we may designate the separatist. Strictly speaking, neither of the two is ever absent; and at times their simultaneous appearance has the effect almost of paradox.[1] But it is equally true that in certain phases one tendency is found to prevail over the other. It is just here that we touch the fundamental distinction between the *Dissertation* and the *Lectures on Metaphysics*. The former seeks to attain consistency (or, better, to escape contradiction) by drawing a clear line of demarcation between human knowledge, determined by sense conditions, and reality as defined by thought. In this way thought is supposed to be released from the restrictions imposed by sense. The *Lectures*, on the other hand, representing the genuinely Critical position, appear to demand that the metaphysical truth revealed to thought shall be understood in a sense determined by the limitations imposed upon a strictly human knowledge of phenomena. In this sense also the Criticism of reason must be regarded as a part of metaphysics. It is the part that tells us how absolute principles are *not*, and by implication how they *are*, to be interpreted.

The admission referred to as remaining to be made has to do with the very significant difference which the Critical standpoint introduces between the various metaphysical sciences. The position of the group consisting of Theology, Cosmology and Psychology does not in itself vary materially in the transition from the *Dissertation* to the *Lectures;* and what has been said of the separatist tendency of the *Dissertation* applies particularly to Ontology. In this treatise Kant represents *Perfectio Noumenon* very much as he does God and the moral ideal in his Critical writings—*i.e.* as logically implicated with the significant life of thought; and it is here that we notice where Kant's thinking has been least progressive. The advance beyond the *Dis-*

[1] It amounts almost to a mental habit with Kant, when establishing the mutual dependence of principles, to reiterate in the same breath their fundamental distinctness. A good illustration occurs at the beginning of the Analytic in connexion with the famous maxim about conceptions and intuitions. "These two powers or faculties cannot exchange their functions. . . . By their union only can knowledge be produced. But this is no reason for confounding the share which belongs to each in the production of knowledge. On the contrary, they should always be carefully distinguished" . . . etc. (Max Müller's tr.).

sertation is therefore due to the development of those most general notions, touched upon in that treatise, which later become organised in Ontology or Transcendental Analytic. It is the general principles of Ontology that invest experience with its universal character—what we call its meaning —and it is through Ontology that the still more general principles logically involved in the former acquire that bearing upon the actualities of experience which alone from the Critical point of view permits them to claim validity. It can hardly be asserted that Kant succeeds, or even desires to succeed, in establishing the integration here as he succeeds in establishing it in the case of experience and Ontology. But granting this, the conclusion is, not that there is no place anywhere in Kant's system for metaphysics, but that there is ambiguity and vacillation in his statement.

II.—"THE FOUNDATIONS OF CHARACTER."[1]

By W. R. Boyce Gibson.

The main value of Mr. Shand's latest contribution to Ethology or the Science of Character[2] is that it sets the science on a sound progressive basis. "To make real progress possible," says the author in his Preface, "has been my aim throughout." "I have wondered whether, in following a plain method of science and common sense in the treatment of a subject around which an amount of valuable opinion has accumulated, we cannot ensure an orderly development; so that each age, taking up the conclusions of the preceding age, not contemptuously, but with respect and hope, may first master its knowledge and wisdom, and discern their legitimate applications, before attempting to judge in what respects they are defective and inadequate: just as the progress of physical science depends on our first mastering the knowledge already attained in some branch of it, and on conserving that, before attempting to solve the new problems there suggested." Mr. Shand has carried these fine precepts into practice. He has read widely both along the highways and the byways of literature, and has made a special study of the French classics and Ethical writers. And yet, as our author confesses with regret, it is not often that a maxim or proverb or flash of psychological insight is stated with sufficient precision or sufficiently protected by qualifying limitations to serve even as a provisional hypothesis concerning the roots of character, something that criticism could improve upon and not simply crush out of existence. The work of expressing the garnered material in sound provisional form, of setting the products of traditional insight into the framework of a new set of ideas, and of formulating with precision nearly 150 laws of mind—all

[1] In view of the interest of Mr Shand's work, the above long review sent to us in the form of an Article is published in addition to the Critical Notice by Mr. Winch which has already appeared.—Editor.

[2] *The Foundations of Character* (being a Study of the Tendencies of the Emotions and Sentiments), by Alexander F. Shand, M.A. (Macmillan, 1914).

this is pioneer's work on the author's part, and undoubtedly work of striking originality and substantial value.

But it is not only in respect of *material* that our author seeks to connect his insight with that of the best tradition, he follows the same policy in respect of his general *method.* Here the writer to whom he is most indebted is John Stuart Mill. The main features of the method which Mill proposes for bringing science into the study of character may be stated as follows. In the first place we are to gather from history, literature and personal observation as many generalisations as possible concerning ethical and political wisdom. These he calls empirical laws, since they are harvested from the field of experience and from the observation of particular instances. As samples we may cite "Democracies tend to change into despotisms," or "Revolutions always begin in hunger," "Love is blind," or "Prudence is the mother of all the virtues". The next step in the application of this ethological method is to make a systematic inventory of a new set of laws, the laws of mind; for, as Mill insists, the Science of Character must ultimately rest on the Laws of Psychology. Into the precise nature of this inventory we need not enter. It will be enough to point out in the first place that for Mill the supreme laws of mind are the laws of Association, and that the tendency of one experience to associate with its immediate neighbour in time or space, or to attract to itself all experiences similar to its own, is the ultimate tendency of our human nature; and, secondly, that these ultimate laws of mind were held by Mill to be too abstract to be immediately applicable to cases of conduct. Hence from these fundamental laws, other less abstract laws must be inferred, and it is these secondary laws of mind which are to furnish the more immediate basis for the new science of character. We thus reach the third and the essential step in the application of the method. This lies in deducing the first set of laws from the second, the empirical laws from the laws of mind. All laws of mind express universal tendencies of our nature: they hold good of the human mind as such and are vouched for, in last resort, by fundamental principles of Psychology. Such laws form a firm basis for a general science of character. And if we can deduce the empirical laws from them as special cases, we shall have given to these laws the best proof of their soundness that the case admits of. If we can show that the blindness of love follows inevitably from the way in which our emotions and sentiments act and interact in virtue of their own innate tendencies, or still better, if we

can show within what limits and under what conditions the interactions of our sentiments bring about love's blindness, we shall have connected experience with reason, and brought systematic science into the obscure realm of character and conduct.

The method which Mr. Shand adopts for his purpose is a modified form of the method of Mill. It starts from the recognition that the main duty of the ethologist to-day is to seek out and fix the *laws of mind*. From time to time our author will take up an individual case, that of Lucy Ashton in Scott's *Bride of Lammermoor*, or that of Eugénie Grandet in Balzac's novel, and he will shed the light of his laws of mind on their character and behaviour; from time to time again he will take up a striking maxim or shrewd reflexion about human nature, sift it, interpret it, limit it and refer it for its explanation to the laws of mind. But it is these laws of mind themselves which are his chief preoccupation. To get back to the roots of conduct as the bases of character, to the primary emotions and sentiments, and to define the laws to which their innate tendencies conform, this is his main endeavour.

The Science of Character, however, must not only be set on the right basis: the manner of its establishment must be such that all who come after may be able to profit by the work done. It takes more than one to fashion a science, and science is essentially a social interest. To pave the way is as important as to strike the track. It is therefore an essential part of our author's purpose to state the laws of mind in a provisional yet definite form, in a form which at once challenges the successor to complete or rather carry on his work, and by its very definiteness exposes its own errors, points the way of advance, and gives the requisite direction. Every careful thinker should strive so to state his results that other thinkers can take up his work at the point at which he leaves it. "Thus the laws of mind," we read, "on which we are to base the science of character, can only be provisional and approximate in the first instance. Still, even as such, the discovery of them, their precise enunciation, their comparison one with another, the gradual accumulation of a great number of them, will be a useful achievement and an essential part of our task. Being precisely expressed, their errors will be sooner brought to light; they will be a guide to future research. When a sufficient number of them are brought together and compared, some may be found to throw light on others. They should help us to discern and interpret the 'empirical laws' of character,

and when both are in harmony the evidence for each will be strengthened. Such provisional laws, notwithstanding their defects, will be a necessary stage in the development of a science of character, and will constitute the working assumptions on which its future advance will be dependent. But the great and initial problem is to give them such a form that they can be adopted by others, and become the base of a progressive development."

The first and the most fundamental of the laws of mind is thus enunciated by our author: "Mental activity tends, at first unconsciously, afterwards consciously, to produce and to sustain system and organisation". More briefly, but less precisely, the mind has an inveterate tendency to organise its activity: it tends always to organise its process. System, organisation is thus the master-key to the new science, and nothing mental can be properly understood save as an organised whole.

In this initial position there is more than can be made plain all at once. We are apt to identify system with routine, and organisation with the repression of individuality. We think of a complex machine fitted to go one way and one way only. We think of its pitilessness, its remorselessness, its obstinate mechanical persistency. And we rebel at the idea that the main function and destiny of mental activity, the very hearth and home of our freedom, should be to stiffen into system and bureaucratic precision: "faultily faultless, splendidly null, dead perfection, no more". But if this is our view of a mental system we think in haste. Let us collect ourselves and remember that mind is something very much alive, so much so that many of us believe it will outlive the body. A living system, a vital organisation, plastic at every point, this is very different from the machines that grind our corn or turn paste into chocolate. To realise how living and forceful a system may be, how plastic and how adjustable, we have but to cast our eye on that living machine, the human body. Being a living machine it is a machine in every part, a system of machines so wonderful that at every stage of its development it remains in perfect working order. Even the minute germ-cell out of which the whole body develops is itself an immensely intricate machine. But it is alive and the producer of living bodies. In moving towards its own ends it shows exquisite power of adjustment and can within limits regenerate its own lost tissue. Take the little animal system called Clavellina: cut it into two, and discarding such trifles as the heart and stomach leave the residuum to grow forward as it may. With what result?

A vast and silent readjustment will set in, and the mutilated fragment will very shortly prove that life is the greatest of all magicians by emerging from the struggle a perfect little Clavellina. And if this is simply the machine that lives, what may not be the plasticity, the moulding and regenerating power of the system that thinks and feels? Psychologists know how delicately complex is that little cell of the mind they call an interest-process,—just a want or a need and the activity which sets about to satisfy it. All the mysteries of instinct, emotion and purposive effort are locked in that simple experience, a vast array of forces inter-organised in definite ways according to definite laws, but all the laws laws of tendencies only, and the tendencies inwardly directed by the common end towards which all the functions of all the parts converge. And think again of the still more deeply vital systems in which the ends of all the lesser systems are interorganised to meet the deeper requirements of a larger and more inclusive life, and at the heart of all, the great ideals of our freedom: beauty, truth and virtue, and the sublime claim which they make to re-organise and redirect to their own far ends all the lesser systems, spiritual and corporeal of our immensely complex life.

If we drink from these wells of truth and nurse our imagination on the vitalities of such systems as these, we shall, I think, be more disposed to connect indissolubly in our minds the two sister-notions of organisation and mental life, and when we learn that the first law of mind is that mental activity always makes for its own organisation, and that every mental unit, every emotion and every instinct is an organised system and must be understood as such if ever it is to be subdued to higher ends,—we shall be prepared to follow our author into the detail of his treatment without suspecting him at every turn of sacrificing individuality to organisation or vitality to system.

The foundation on which our characters are built up is the system of the primary emotions and appetites. These primary emotions are at least six in number: fear, anger, disgust, curiosity, sorrow and joy; and of the primary appetites two at least are conspicuously fundamental: hunger and sex. These emotions and appetites are known to be primary since they satisfy one or more of the following tests: manifestation in the first months of child-life and in behaviour of a genuinely instinctive kind, wide diffusion over the animal world, and irreducibility on analysis to anything more primitive (p. 219). These tests are also satisfied by certain primary impulses, more particularly the impulse for

exercise and the impulse for repose. These must therefore be classed with the primary appetites and emotions among "those fundamental forces of character, without a knowledge of which it were in vain to attempt to understand its later and more complex developments" (p. 29).

Now each of these primary forces is an organised system. It is indeed an abstract Psychology which discerns "in emotion only feeling, in an impulse only conation, and in other states only cognition" (p. 29). We must in fact distinguish between the functional unit that has sufficient complexity to stand, relatively speaking, alone, and the mere fragments or aspects of that unit which can be isolated from it only in thought. We are accustomed to the notion that the concrete unit of knowledge is the proposition or judgment, and that the term or clause which is its element is not a unit of knowledge but only an abstract element of it distinguishable in thought from the proposition but not capable by itself of serving as a foundation for knowledge. So in an emotional system we shall find various factors, and these we may conceive in abstraction from the system they serve, but if we do this, let us remember that they *are* abstractions and that everything which is not an organised system is an abstraction from the life of mind and not a vital mental unit itself. Now the terms 'instinct,' 'emotion,' 'appetite,' 'desire,' 'sentiment' all stand, in our author's terminology, for mental systems. The term 'impulse' is used in both senses, the systematic and the abstract, since only certain impulses seem to be systems, and it is often convenient to use the term to indicate an aspect rather than a system. Thus we speak conveniently of an emotional or instinctive impulse, meaning here by 'impulse' just the motor aspect of the emotional system in question. Let us look a little closer at this great dynamic power: the emotional system. What is it that holds it together? Where are we to look for the binding force that gives it its unity and its uniqueness? Not in the feelings which colour it nor in the bodily sensations that accompany it. We must look for it in the purposive end towards which all the impulses of the system converge: it is this that organises and directs the system and gives it its unity and its determinate character. If our emotional activity has an inveterate tendency to organise itself it is because it is not purposeless or rudderless, but, unconsciously or consciously, works towards an innate or predetermined end. The end of anger, that which appeases the angry impulse and so brings it to an end, is the injury or destruction of its object, or else the overcoming of some resistance which

obstructs it. The end of fear is the avoiding of danger, the end of joy the maintenance of that which delights it, of sorrow the restoration or redemption of that which has been lost. Now it is this knowledge of the end of an emotion which gives us the key for interpreting the system. It is under the stress of the need to satisfy its end that an emotion will draw into its service every serviceable form of instinctive reaction, and these, however varied, will all belong to the same system since they are directed to the same end. However different is concealment and silence from the cry for help, clinging or keeping close to something from shrinking or starting back, immobility and the simulation of death from mad precipitate flight—yet as these are all directed to the evading or averting of danger and betray one and all an innate anxiety to avoid aggression, we recognise them at once as the instinctive ways of fear.

Thus the whole instinctive process from start to finish, from its excitation by certain stimuli to which it is innately sensitive to its ultimate expression in various forms of hereditary behaviour belongs to the emotional system and subserves its end. And this consideration compels us to recognise that an emotional system is far more than a mere complex feeling, far more even than anything of which we can be directly conscious: indeed if it is to comprehend and envelop the instinctive processes which it claims, it must have its roots deep in the body and be not only a psychical but a psycho-physical system. Whatever tremors of nerve or contractions of muscle stimulate or express the instinctive response belong to the emotional system which that instinct subserves.

We have referred to the *end* of the emotion as the fundamental organising power of the system. It is the avoiding of danger which is the mainspring of the emotional activities of fear, the maintenance of that which delights it the mainspring of joy. Once the instinctive impulse towards this end is aroused, the emotion will organise itself under the direction of this impulse. Now it may happen that the cause which arouses the emotion is also the object towards which the emotion is directed, as when the sight of a bull or a ghost as we come down the lane is at once the cause and the object of our fear. In this case the emotion has a definite basis in fact and it can work itself out to its final end, whether through flight, concealment or bravado, in perfectly definite ways. But it will often happen that the emotion is caused by bodily disturbances, and in this case the cause of the emotion is not identical with the object towards which the emotion is directed. The emotion is objectless

though very real, and this objectless emotion is known as an emotional mood. And since the end of an emotion is reached much more easily and effectively when it has a definite object about which to concentrate its energies, our emotional moods, through the sheer necessity of finding some object, will tend to fasten on to any frivolous pretext. We know how ridiculously sensitive a man is when in an angry mood, and what a small trifle will send us into raptures if our mood is joyous. And if objects are not to hand, they will be invented to justify the mood, and all thoughts or ideas congenial to the mood will then be brought to play upon this object. For every emotional system, we must remember, has its own characteristic mentality. Our ends determine not only the means we adopt to reach them but the ideas through which we think. Anger will exclude all reasonable thoughts and all kindly thoughts about its object, and the thoughts of fear though they may seem more kindly are no more reasonable than those of anger (p. 179). How often does our timidity prevent us from thinking the right thing at the right time. We think as our timidity allows us and not otherwise, and think clearly and rightly only when the emotion is displaced by another more cordial and more sincere, or subdued to the uses of one of the great sentiments such as friendship, patriotism or disinterested love. How sincerely in our reading or in argument do we overlook or tend to overlook the point that tells against us. How often is a writer accused of deliberately ignoring certain facts which tell against his case when the simple truth is that, unknown to himself, his covert fear of these facts and their bearing on his case blinds him to their very presence. He doesn't know that he is afraid of them but he is. "Men mark when they hit," says Bacon, "but never when they miss." Precisely. Joy emphasises the successes and obliterates the failures just as a lover's joy in his beloved will see all the virtues and miss all the defects. We see in life what we are prepared to see, and what we are prepared to see depends on our emotional temper. Only those great organisers of our emotions, namely the sentiments, can help us to see life singly and to see it whole.

And what is true of the thought is true also of the will. Only in and through the sentiments are resolutions formed and definite choices made. There can be no self-control and no steadfastness where the emotions of our own life have not been organised within some inclusive passion, enthusiasm or sentiment, and even then it is only the strong sentiment which has a tendency to develop a strong will in its support. "The weakness of so many minds," says Mr. Shand, "is

either that they cannot love anything strongly and exclusively enough to pursue it steadfastly, or that they are innately predisposed to some discouraging emotion, as fear, or despondency or sorrow, which they never learn to control. And thus the strength or weakness of the will is largely due to the sentiment in which it is organised, or to the direct influence of some emotion" (p. 66). Thus we are led towards the sixth of the laws of mind which Shand puts forward as "the working assumptions of our science," and formulates as follows: "All intellectual and voluntary processes are elicited by the system of some impulse, emotion or sentiment, and subordinated to its end" (p. 67).

It would of course be quite impossible, within the limits of an article, to consider in all its systematic rigour and wealth of detail the varied systems of emotion which our author passes in review. We propose therefore to restrict ourselves to a single emotional system, the system of joy, to discuss Mr. Shand's treatment of it and to venture some criticisms.

According to Mr. Shand, Joy is essentially a conservative system. It is the emotion which expresses present satisfaction with its object (p. 282). "Joy tends to maintain the object itself as it is" (p. 281), and not only this, but also tends to maintain the self in its present relation to the object, for if an object we are enjoying moves away, we follow it, if not with our feet at least with our eyes, and if this is not possible we detain an image or thought of it and rejoice in secret over that. Thus the fundamental end of joy is "to maintain the situation which is the cause of joy so long as the joy in it is felt" (p. 300). Are we enjoying rest? Our tendency is to remain as we are: disturbance is resented, and if the obstruction is serious or persistent our joy passes off into anger, and into that form of anger of which the end is to clear away the opposition and restore the old condition. So, too, if we are enjoying a game: so long as we enjoy it we do not wish to change it. And we know how children wish to have repeated what they have enjoyed. It is indeed not easy to realise that this impulse to maintain the object as it is is the characteristic tendency of joy. For so long as our enjoyment is not interfered with and no one seeks to withdraw or change the object, we remain absorbed in the object and do not question our impulse towards it. It is only when this impulse is obstructed that we realise its existence. And the unfortunate thing is that "in proportion to the degree in which the impulse of joy is prominent in consciousness is the emotion of joy destroyed" (p. 283). If we have

to stop a game in order to argue with those who wish to see it discontinued we lose our joy in it. With anger it is different. Oppose the angry man and he becomes more angry still; disturb somebody's enjoyment and he may become angry but he will certainly become less joyful. The reason is that joy rests in its object: it is not struggling to improve it or reform it or further it or defend it in any way. The emotion of joy is therefore incompatible with the restless energies of criticism and ambition. The ambitious man may halt from time to time as he mounts the hill of life, and will rejoice in the progress he has made; but even as he does this the fever of the impulse leaves him and he is content to let the moments wait. When do we enjoy a game most? When we have so mastered its elements that they give us no thought and we are free to abandon ourselves to the zest of exercise. The feeling of striving must go if we are to have genuine joy.

Let us turn by way of illustration to the behaviour of play, and let us ask ourselves what light is shed on the nature of play by what we have learnt of the system of joy. Play is probably the most characteristic behaviour of the system of joy, argues Shand, and joy the very spirit of play. It is therefore in play that we may expect to see the emotion of joy in its purest form. Now the remarkable thing about the play-impulse, and therefore, on Shand's view, about joy itself also is that being directed to no serious end of its own it can draw off into its own system in a spirit of large catholicity all the instincts of all the emotional systems. It can do this despite the fact that each of these instincts has in its own system a peculiar function in many respects antagonistic to the functions of other instincts in other systems. And it is because the development of these instincts in the play-system stops short at the point where they might begin to arouse their respective emotional feelings and express themselves in work-a-day earnest that this happy family of instincts can disport themselves so amicably within a single system. When an animal or a boy goes out to play he is neither hungry, nor angry, nor afraid, nor inclined to be disgusted with life nor stricken with sorrow; nor is he burdened with that curiosity and wonder out of which science and philosophy grow. Hence when instincts of combat and flight and many others, after disconnexion from their usual systems to whose end they are now no longer subordinated enter the service of the play-system and the emotion of joy, they adjust themselves to the end of this new system. The exercise of each of these instincts be-

comes in play an object of joy. "What we call play," says Shand, "is only play inasmuch as the instincts called into activity by it have become detached from the system of fear, anger and appetite, and have become attached to joy and are now exercised because their exercise arouses joy" (p. 292). In the following illustration of animal play quoted by Shand himself we see how distinct and yet how close are the serious and the make-believe in play. A dog and a badger become playmates. "The essentials of the game were that the badger, roaring and shaking his head like a wild boar, should charge upon the dog, . . . and strike him in the side with its head; the dog, leaping dexterously entirely over the badger, awaited a second and third attack, and then made his antagonist chase him all round the garden. If the badger managed to snap the dog's hind-quarters an ugly tussle ensued, but never resulted in real fight. If Caspar, the badger, lost his temper he drew off without turning round, and got up snorting and shaking and with bristling hairs, and strutted about like an infuriated turkey-cock. After a few moments his hair would smooth down, and with some head-shaking and good-natured grunts the mad play would begin again" (p. 296). Thus the serious manifestation of all grievous instincts is restrained within the limits required by the end of joy which is just to play and play on and nothing beyond. Control of instincts and other tendencies can thus be acquired in play without the dangers attending the full expression of these instincts within their natural systems. And yet no one of these instincts is joy's own instinct. They are all borrowed from other systems and then stamped in play with the impress of joy.

We have seen that according to Shand's interpretation of joy, joy and desire are antagonistic systems. The one tends to exclude the other. Let us consider more closely what this view implies. And first as to the meaning of 'desire'. A desire we find interpreted as an impulse which has foresight of the end to be reached by it. The impulse apart from the foresight is no more than a felt uneasiness, but when the impulse, on being obstructed or delayed, develops its foresight and becomes desire, there grow up out of this mixed root of restlessness and prospectiveness a number of specific emotions, emotions peculiar to desire, arising in its system and nowhere else. Thus desire, we read, is "a very complex emotional system which includes actually or potentially the six prospective emotions of Hope, Anxiety, Disappointment, Despondency, Confidence and Despair" (p. 463). Briefly it is a system of definite prospective emotions. But though

these six emotions are peculiar to the emotional system of desire, desire is not limited to these. It may organise and utilise in the service of its special impulse any one of the primary emotions with one single exception. That exception is Joy. "Not only does the restless state of desire exclude joy, but joy, the contemplative emotion, excludes desire" (p. 509). Let us consider the two main classes of joy: the joys of rest and the joys of action. The joys of *rest* are of three kinds, the joy of attainment, the joy of anticipation and the joy of retrospect. The joy of *attainment* is an evanescent and transitional emotion. "It is a pause intervening between two restless processes, the desire just satisfied and some new desire that takes its place." But in itself it is a relief from desire and excludes it. The joy of *anticipation* looks to the future as the joy of attainment to the present, but it is no more part of desire than is the joy of attainment. For like the latter it is a pause or interruption, a brief interval of day-dreaming and make-believe, and as such a brief respite from the restlessness of desire. The joy of *retrospect* looks to the past either in a contemplative way quite outside any system of desire, or as a halt in the process of desire when a stage of the process is over and fatigued nature bids us look round and take fresh heart in from the progress we have made. Here again we have joy the intervals of desire but never at its heart or in its system.

Turning now to the joys of *activity*, and considering their relation to desire, we are met by the same evidences of mutual antagonism between desire and joy. Either the desire is serious or it is not. If serious, it excludes enjoyment except at its pauses or terminations, *i.e.*, when desire momentarily or temporarily lapses. If the desire is not serious as in pure sport, then, Shand admits, it need not interfere with our enjoyment (p. 515). But then it is not a genuine desire but a mere pretence. "The end of the game is, by playing it according to fixed rules, to make more 'runs' than the opposite side, or to force the ball more frequently between the goal-posts, or to insert a ball successively into eighteen holes in a fewer number of strokes than our opponent." But "this end is a make-believe," and so therefore "is the desire for it". It has at any rate none of the restlessness of the genuine, typical desire, no eagerness to reach the end and reach it as victors. On the contrary the delays and uncertainties of the game are an additional attraction. "Thus," concludes our author, "the law that desire and joy tend mutually to exclude one another appears to hold of all cases" (p. 517).

The analysis of joy which we have just been considering, including its relation to desire, is so clearly and ably developed by its author that it would be impossible not to recognise its originality and its value. But it seems to me to have one rather serious defect: it has neglected, or rather failed to emphasise, an aspect of joy which, far from being negligible, is of fundamental importance for the proper understanding of the system, and should, in my opinion, take the place of the *end* which our author assigns distinctively to joy. If we consider what joy means to the person who experiences the joy, we shall find it difficult, I think, to attach the same weight as does our author to the conservative impulse of the emotion. Shand himself admits that this impulse is hard to detect so long as the joy is active, but springs into obviousness so soon as the joy is obstructed. And *then* the joy tends to vanish, desire, anger or disgust taking its place. This suggests that the impulse towards retaining the object as it is and maintaining intact one's own self-relation to the object may be the impulse not of joy as such but of a desire springing from the heart of joy, a desire which first finds itself explicitly when its latent impulse is obstructed. If this interpretation is correct two significant consequences follow. Desire finds a place in the joy-system after all, and the joy-system itself must find a new motive. Let us briefly consider these two points in turn, starting with the latter. What, we ask, is the fundamental impulse of joy?

The fundamental and indigenous impulse of joy appears to me to be the dynamic impulse of self-expression. An emotion, says Shand, is "a self, or microcosm of the entire mind" (p. 64). It is an embryonic personality and nowhere, it would seem, is the self-reference at once so intimate and yet so unobtrusive as in the system of joy. Joy, as we take it, is the emotion of self-enlargement, the great expansive emotion, and before it becomes the crowning emotion of love it is already the distinctive emotion of our personal freedom.

This expansive tendency of joy reveals itself clearly in its motor expression. I borrow the description from a work of Fouillée's: "The features dilate, the eyebrows are arched, the mouth opens, the face too opens out, as it were, the voice is louder and fuller, and one's gestures generally become more ample and vivacious. The heart and lungs dilate, and the brain itself works more easily and rapidly. There is increase of mental animation, sympathetic feeling and good-will in all that is said and done. The expression of

pure joy in a word is the expression of liberty and therefore of liberality" (*Idées-Forces*, i., p. 155). And if we turn to the play-system we find the same note of vital expansion and free expression. Not conservation but abandonment is here the dominating impulse. We give ourselves up to the game. It may be in a spirit of relief from pressure, of reaction from the earnestness of life, as when the city man on a Saturday afternoon forgets himself and his work on the river or at golf, and throws all his cares to the winds. Or it may be, as it more often is with the child and adolescent, in a spirit of spontaneous recreation which requires no background of earnest endeavour to give it zest and vitality. Or it may be, and this is perhaps the profoundest play-impulse of all, in a spirit of pure creativeness. Here the joy of play is the joy of the child when the child is in earnest and the joy of the genius when his spirit is at play: what Groos has called the joy of being a cause. Liberation, recreation, creation, these are all forms of self-abandonment, aspects of that emotional impulse towards freedom which we call Joy.

Assuming then that self-expression is the characteristic impulse of joy as a primary emotion, we may further ask: What then is its relation to desire? Accepting Shand's definition of desire as an impulse that has foresight of the end to be reached by it, we readily admit that there are joys, and among these the most pure as well as the most primitive, where there is no such foresight of an end to be reached, no movement towards an end, and therefore no desire. There is the joy we have in being alive at all, the mere joy of living, 'the leaping from rock to rock," the joy in activity as such apart from all question as to whether it is successful or not. Here we have attainment unpreceded by any anticipation, *being* dissociated from all purposive *doing*. There are joys such as those of vision which can express themselves simultaneously in the present and perfect tense, which can say at once "I enjoy" and "I have enjoyed". They are as complete now as they were, and as complete then as they are now. They are the joys of pure fruition: they satisfy us from the outset, and in such a system all active desire is superfluous. In these cases the conservative impulse may well be the instinctive impulse of joy as such. But there are other joys, and it is not enough to call these the joys of activity, as though all activity were mere pursuing: they are the joys of "progressive attainment". Here there is at the heart of the joy a strain of desire: the end is desired but not apart from the means or the way that leads to it, it is desired

as the culminating point in a progress. "The man who enjoys the ascent," says Prof. Mackenzie in developing this very point (*Manual of Ethics*, 1st ed., p. 118), "is the one who desires the end only in so far as it gives unity and completeness to the process of attaining it." For such a man joy is set in a framework of desire.

Our point then is that these joys of progressive attainment are not antagonistic to desire. There are joys which consort with serious desires, joys that haunt us in our work, and far from bringing the work to pause stimulate us from their first inception; there are joys of aspiration as well as joys of elemental liberty, joys in which the desire after an ideal is from the start instinct with the presence of that which it desires to reach, joys which are fruition in action, rest in movement, satisfaction in desire. In joys such as these, where all desire is progressive realisation and all pursuit a progressive attainment, we escape from the old dreary round of painful want, desire and pleasurable excitement followed by satiety and further want: this was the wheel of desire from which Epicurean and Buddhist have sought release in ἀταραξια or Nirvana, freedom from care or from desire. In progressive attainment we find our rest in and through our action, and our joy in and through our desire and aspiration.

The case for such a reconciliation between joy and desire as we have just briefly sketched out seems strengthened by the consideration that if joy is antagonistic to the system of desire, it must also be antagonistic to the system of sorrow. For our sorrows are often aching wants shot through with desire for that which is absent. But if sorrow is of the essence of desire, so that desire may be said to be born within its system, then, if Shand is correct, sorrow should be antagonistic to joy. But this Shand does not admit: it is repugnance and disgust which are the opposites of joy, not sorrow. Moreover no conclusion could be more contrary either to human experience or to sane psychological analysis than the conclusion that sorrow is alien to joy.

The analysis of our emotional experience shows indeed that sorrow and joy are most intimately related. Our sweetest songs would cloy but for the strain of sorrow in them. It is through suffering that our joy wins its depth, its insight and its serenity. We have seen that the stability of pure joy depends on its not being obstructed. Obstructed, it turns towards anger or towards fear. We come down some morning in a joyful temper and meet some one who had got out of bed from the wrong side: in a moment we are ruffled or irritated, we shut up like a sensitive plant in dis-

gust and realise how frail a flower is the joy that dies with its own gladness. But if we examine ourselves more closely we find that the joy, surface-rooted as it was, has not lost its best hold on the soil of our mind. It survives in transfigured shapes as an impulse of restoration: an impulse it may be of minimal emotional feeling but with clearly marked tendency and end. And that impulse of restoration is sorrow seeking to recover what joy has lost.

Let us note how sorrow strengthens joy. Most obviously of course by tending to restore it. If the swift-winged joy left us regretless, and there was no impulse to 'recapture the first fine careless rapture'—if joy did not leave sorrows behind it to carry on its work, it could never have become, as it has become, the central emotion of love and the most enduring of all the emotions. But it is because this sorrow with its redeeming tendency is not sorrow in general but the sorrow of the joy, the lost joy's own sorrow, that it is best able to help the joy. Sorrow does not forget her lineage or prove an unfaithful daughter. On the contrary she concentrates herself on recovering the joy native to the one particular system in which she has been born. If a child's toy is broken how is the flown joy easiest recovered? Not by purchasing a new toy but by patching up the old one. The mother who when her children are safe in bed awaiting the coming of Santa Klaus, slips into the nursery with a pot of glue and other restoratives is not only economical but wise. She knows that to solder an old joy with sorrow is more strengthening to human nature than to create a new joy.

Here—so our author would tell us—"we see the wisdom of sorrow in refusing consolation according to the way of the world" (p. 366). Rachel weeps for her children and will not be consoled. Such sorrow rejects the joy of any system but its own, and if the sorrow is extreme it even tends to destroy the very capacity for joy which is inherent in these alien systems. Out of such concentration of impulse the welded system of joy and sorrow acquires a greater depth and a far greater constancy. We have joy in a friend and he leaves us. "The magic light dies off at once from bower and hall," and yet it does not altogether disappear. It roams mysteriously through the twilight of absence, persisting through the long shadow of separation like the light of an old-world night of June waiting for the day's return. It is in the aftermath of sorrow, if I may shift the metaphor, that we learn the value of joy's rich harvests and with pitiful regret recall the unharvested joys. And when

the friend returns, our joy is the richer for the sorrow that has moulded it in absence, and by saving it from forgetfulness, brought in, however faintly, the eternal note.

The conclusion to which the foregoing analysis seems to point is that the emotion of joy, whether we consider it in itself or in its relation to sorrow, is in all our progressive activities at any rate closely related to the system of desire, and therefore intrinsically not antagonistic to desire. Joy is the emotion proper to the activities in which our sense of freedom finds self-expression, and whatever desires grow out of such activity far from discarding joy clothe themselves in it. If our view be correct, then a certain modification is called for both of Mr. Shand's conception of the fundamental tendency of joy, and also of his view as to the relation between joy and desire. In particular it will not be possible to conceive of the system of joy as intrinsically antagonistic to that of desire.

In bidding leave of this subject let me refer once more to the book we have taken as our text. Much of it has been passed over in silence, and even where we have expanded it has been impossible to do justice to the richness of the material. *The Foundations* is a book to be read and re-read: a book to be studied till the various parts stand out in distinct and permanent relief. Only then will it be possible to consider it justly and as a whole and apply it fruitfully to the Ethics of Character. When such applications become practicable and Mr. Shand's work has been brought into line with Evolutionary Ethics, the Pathology of Human Feeling and Character, and last, but not least, a Philosophy of Personality and Freedom, great results should follow. At present we are only at the beginning of the end.

III.—THE FLYING ARROW: AN ANACHRONISM.

By Philip E. B. Jourdain.

The first part of this article (§§ I.-IX.) contains an attempt at an interpretation of Zeno's arguments about motion, together with a criticism of many former interpretations. The author's view is that all four arguments are directed against the belief held by most people of that time (including the Pythagoreans and Empedocles), and still always held by unsophisticated people, that lines are made up of points. There is not an analogy between these arguments and Zeno's arguments against the unit, for here there are arguments (the two last) which make no use of the principle of dichotomy, and seem to be directed against the view that space and time are composed of a finite number of points and instants respectively. Thus the whole four arguments seem to try to prove that motion is impossible on *any* pluralistic hypothesis. (1) If we admit infinite divisibility, and thus maintain that the points and instants are *infinite* in number, then (*a*) the first argument shows that motion can never *begin*; (*b*) the second argument shows that the slower moves as fast as the faster, and that the infinite divisibility of time is irrelevant. Both these conclusions arise merely from the supposed self-contradiction in infinity, and this depends, as we can see nowadays, on an ambiguity in the word "infinity". (2) If, then, we give up the principle of infinite divisibility, and consequently assume that space and time consist of a finite number of indivisibles, we see that (*c*) the flying arrow is always at rest; (*d*) a body travels twice as fast as it does. The second part (§§ X.-XI.) contains a generalisation of the argument of the Arrow to certain 'everywhere dense' aggregates, and a new 'proof' that the Arrow does not move for a *continuous* space and time, which is disproved by the modern theory of aggregates.

I.

You must understand that the shades in Hades are given every opportunity to keep themselves thoroughly educated and up to date in all matters of science and literature. Un-

fortunately the same cannot always be said of art: though it would perhaps be a good thing if some works of art could be consigned to Hades. For where there are many copies of a production,—as there usually are of books,—one or two are not missed, even if the production is good. A sculpture or a painting is always unique; most of the unspeakably bad ones and some of the good ones doubly so, for there are not even plaster or mezzotint or chromolithographic reproductions of them. Consequently, those shades who "must surround themselves with pictures and books" are thoroughly happy in Hades. In fact, they, like their counterparts on earth, are quite contented with plaster and mezzotint and the pleasant look of rows of books behind glass cases and of books bound in *suède* on their drawing-room tables. . . . And a little thought will show that such shades make up the *only* large and happy class in Hades. For nobody who really loves the plastic arts can be happy there, and, of the rest, those who do not love literature or science cannot find happiness in the sort of things shades can do, unless they are "book-lovers". . . . Besides, most students prefer writing to reading, and shades may only read and think. . . . But this is a digression.

So you must not be surprised to hear that the shade of Zeno the Eleatic had been a regular reader of the *Mathematische Annalen*, *Acta Mathematica*, *Scientia*, MIND, the *Revue de Métaphysique et de Morale*, and the *Zeitschrift für Philosophie*, for a long time past, not to speak of various works by Professors Georg Cantor, Frege, and Schoenflies, and Mr. Bertrand Russell.

One day, after Charon had crossed the Styx with a brown paper parcel containing Mr. Russell's "Lowell Lectures of 1914" on *Our Knowledge of the External World as a Field for Scientific Method in Philosophy*, and had given it to the shade of Zeno, the shade read it and found it more interesing than any work on philosophy since *Through the Looking-glass and What Alice Found There*. Mr. Russell's *Principles of Mathematics* of 1903 was full of interesting things, but the part on Zeno made the poor shade rather unhappy, because it felt that its original ought to have meant all that, and did not. . . . Besides, a moving point seemed to be enumerating a set of points in extension, even if we were not obliged to *define* the set by extension. . . .

The same afternoon the shade of Socrates, who had continued, as best he could, his habit of getting people to talk, came to discuss philosophical matters with the shade of Zeno

II.

"I am more or less satisfied," said the shade of Zeno, "with the way in which my puzzles about Dichotomy and Achilles and the Tortoise are answered nowadays, but I am still dissatisfied with the way in which philosophers treat the Flying Arrow. I must say I am a bit irritated by the way in which Milhaud twisted the Dichotomy so as to mean that a moving object cannot get to the *end* of its course. I wanted to show that it cannot *begin* to move: it is exactly the opposite of the Achilles. Even Mr. Russell, on pages 172 and 173 of this book, seems to pass over this point; though Prof. Burnet and perhaps Mr. Broad had seen it quite well. You see, the opponent I imagined in my book thought, as most people did and do—yes, the Pythagoreans and Empedocles (I daresay) too—that lines were made up of points. . . . Mr. Russell is a modern Pythagorean.

III.

"By the way, that reminds me of atomism—a doctrine proposed just after my middle age had begun. Moritz Cantor the historian, in the first edition of his *Vorlesungen über Geschichte der Mathematik*, remarked (vol. i., Leipzig, 1880, pp. 168-171) that I 'tried with philosophical acuteness to shake instead of to strengthen mathematical opinions. The time was ripe for such attempts. The atomists had questioned the divisibility of bodies and supposed that there were small indivisible primary particles. Still greater was the breach with received ideas when the Pythagoreans threw the conception of the irrational among thinkers. As we have seen when speaking of Democritus, this conception penetrated, whether it was intended to do so or not, into wider and wider circles. The inexpressible was expressed, the unthinkable was clothed in words, that which could not be revealed was revealed. Further, even for those who do not share the Pythagorean awe and could view the matter calmly, a wholly new logical difficulty arose. Numerical and spatial magnitudes, which had hitherto been thought to be fitted for measuring one another and representing one another to the senses, suddenly showed a contradiction. To every number corresponded a length, but not to every length a number. By this continuity and discontinuity were discovered and laid before philosophers as new objects of thought. Can we wonder that in the face of this contradiction philosophers went too far and denied multiplicity and motion?' This and

most of what follows is exactly the same in the third edition of the first volume, published in 1907 (pp. 198-200), but to this edition is added, besides references to some German writers on my puzzles and Paul Tannery's paper of 1885: 'Zeno tried to show that a body is not a sum of points, a period of time is not a sum of instants, and a motion is not a sum of simple passages from one point of space to another. This controversy, carried on by ingenious contradictions, was directed against the Pythagoreans. . . .' However, in spite of this adoption of some of Tannery's views, Moritz Cantor repeats Aristotle's wrong notion of my fourth argument against motion, which he says has a 'would-be-mathematical form,' and remarks about it: 'we have denied Zeno the title of mathematician. This last mistaken conclusion of his justifies us, for here absolute and relative motions are equated to one another, and this could hardly be done by a mathematician'. Tannery was the first to see that my fourth argument was not a foolish one, but was a valid refutation of the view that space and time consisted of a finite number of indivisibles, and he made a great point of this.

"Mr. Russell puts what I meant in a pleasant and simple form on pages 177, 178 and 134 of this book. . . . By the way,—and I am thinking of what Moritz Cantor said,—isn't it rather amusing to see the complacency with which some mathematicians imply that mathematicians are superior to philosophers or logicians? Bishop Berkeley showed that mathematicians were often rather poor logicians . . . and very many mathematicians, even after Berkeley's time, have unconsciously verified his remarks.

"However, Tannery's representation of my other arguments is not quite correct, and Milhaud, who explained fully in 1893 and again later what he thought Tannery meant, got no nearer the truth. Noël's interpretation, given in 1893, is good in seeing that the first two arguments refute infinite divisibility and the last two refute indivisibles; but he ought to have seen that I only wanted to show that you are stopped whichever way you argue *unless* you give up pluralism. Noël saw correctly that I wanted to show, by my first argument, that motion could never *begin;* but I really never imagined my adversary making quite such a far-fetched retort as that 'the argument about dichotomy supposes that the motion takes place between two fixed points of rest. But that is after all a hypothesis, and perhaps the absurdity of the conclusion only proves that this hypothesis is illegitimate. One thing has been proved: the impos-

sibility of passing from rest to motion. Why conclude that motion is only an appearance? Perhaps rest is the appearance, and perhaps everything has an actual motion. Motion cannot begin, but there is no need for it to do so, as it is universal and eternal.' Noël thought that the Achilles was imagined to solve this difficulty. 'If all bodies are in motion, all motion is relative. It is not allowable to shut up motion between two immovable limits. There is no absolute velocity, but only relative velocities. Now, this last concept contains a contradiction analogous to that which the Dichotomy showed; relative motion is as absurd as absolute motion: the quicker can never overtake the slower.' But Noël quite well saw that Aristotle missed my point.

"None of these French writers have grasped the very important fact that, especially so long ago as nearly six hundred years B.C., when no need had been felt to distinguish air and space, for example, most words were used with very many meanings and some of these meanings excluded each other. I was hampered by this, though I did not know it then. The word 'infinite' meant 'without end' and 'without end' was thought, as it is even now by most people, to imply that the endless process could never be completed in the sense that everything in the direction of the process—for instance, every point on a line on which something moves forwards without end—could be overtaken. Another instance is my use of the words 'like' and 'unlike'. You know that Plato, in his *Parmenides*, said that my book began: 'If existences are many, they must be both like and unlike. But this is impossible.' As Proclus says in his *On the Parmenides*, they are unlike inasmuch as they are not one and the same, and like inasmuch as they agree in not being one and the same.

"Taking the current meaning of 'infinite,' I found that the notion of infinite divisibility was self-contradictory. As regards the contradiction I found in things being unlike, I thought then that elements (if there were such) could not have many properties each, and thus could not be like some other element in one way and unlike it in another

". . . French writers have such a passion for clearness that they like to think that the only possible meaning of a word is what they understand, and if they do not understand it they leave it out. But one of the greatest problems is to discover all of the things that a word used to label some thing interesting—such as 'mathematics' or 'logic' or 'infinite'—has been used to mean."

IV.

"To return to the atomists, Milhaud, in a note on page 140 of his book *Les philosophes géomètres de la Grèce*, said that Moritz Cantor thinks that my adversaries were the atomists. And Mr. Russell, in the second note on page 169 of his book, seems to agree with Milhaud. But we have seen that Moritz Cantor did not suggest such a view even in his first edition, and renounced nothing when, in his third edition, he *did* adopt Tannery's views. In the same note, Mr. Russell quotes R. K. Gaye as holding that I intended to refute the atomists. Gaye held that I particularly intended to refute Empedocles. Now, although atomism may certainly be traced back through Anaxagoras and Empedocles to Pythagoras, the atomic theory proper only arose with Leucippus, whom I may call a pupil of mine, and the still younger Democritus. By the way, it is rather laughable that M. Léon Brunschvicg, on page 48 of his book, *Les étapes de la philosophie mathématique* (Paris, 1912), seemed to imply that my arguments may have been directed against a Democritean plurality of atoms. On pages 154-155 of the same priceless book, M. Brunschvicg says that 'two contradictory conclusions have been attributed to Zeno : one that motion does not exist, and the other that the existence of motion refutes the hypothesis of a discontinuous plurality of elements.' These conclusions are not contradictory; and the second conclusion, which seems a perversion of Tannery's view, is laughable for any one who has read Plato's *Parmenides*. My opinion of the silliness and lack of learning of M. Brunschvicg's book has been strikingly confirmed . . . the French Academy crowned it."

V.

"Now, to go back to where this digression on atomism started, I suppose that everybody admits, besides the supposition that lines are made up of points, that a line may always be divided into halves, then one of these halves divided again, and so on without end. You remember that the ancient Chinese philosopher Hui Tzŭ pointed out that if you take a stick a foot long and every day cut it, or what remains of it, in half, you will never come to the end of it. . . . By the way, the same man also said that a motherless colt never had a mother; for when it had a mother it was not motherless, and at every other moment of its life it had no mother. That reminds me of the version which Sextus Empiricus gave of my argument about the Flying Arrow : a

man never dies, for if a man die, it must either be at a time when he is alive or at a time when he is not alive. . . . However to go back to my argument.

"If you assume that a line is made up of points, so I used to say, you find motion is impossible."

VI.

The shade of Socrates knew the dialectic method only too well. Had not Socrates learnt it from Zeno when he was on earth, and then tried it on everybody he met, until the people of Athens lost all patience and made him drink the hemlock? And now his shade had meekly to resign itself to interminable questioning. It answered resignedly:—

"How is that, Zeno?"

"You admit, Socrates, the infinite divisibility of the straight line?"

"I do, Zeno."

And the shade of Socrates sighed; it knew what was coming, and felt, like Parmenides in Plato's dialogue, like an old race-horse forced again to go over the course he knew so well. Even the irritating repetition of names was the same as ever; it was like carrying on a conversation with a clergyman's wife, except that wives of clergymen do not usually discuss infinite divisibility.

"Well then, if you want to get from a point A to a point B, you must first go through half of the distance AB, and before going through this half you must go through *its* half, and so on *ad infinitum*. You cannot, then, even *begin* to move."

"How is that, Zeno?"

"Because, Socrates, there is an infinity of points to be passed before you can go any distance, however short, from A. I said, if you remember, that 'it is impossible to touch an infinite collection one by one in a finite time'. Aristotle missed my point completely when he thought that the puzzle was solved by pointing out that time also was infinitely divisible. Also Samuel Taylor Coleridge, in an essay in Section II. of his book *The Friend*,—in which, by the way, he seemed to mistake me for a Sophist,—and Shadworth H. Hodgson, in MIND of 1880 (vol. v., pp. 386-390), made the same mistake as Aristotle. Coleridge is worse than Hodgson, because he did not see that the Achilles made use of the infinite divisibility of time; but Hodgson is the funnier because he recognised this obvious fact, and yet quoted Coleridge's words as if they were oracular. Certainly they did not fall into error

through excess of subtlety. . . . By the way, Mr. Russell, on page 172 of this book, is rather too subtle when he thinks that my words 'one by one' are important. I really was thinking of *correspondence*, not *counting*, and only meant that the correspondence of the instants of time to the points of space could not be what Georg Cantor called 'similar' and Mr. Russell 'like,' if the time were finite in length and the space infinite in length. I was wrong, but it was not a very bad mistake considering when I made it."

The shade of Zeno took up Mr. Russell's book to find the place. A book-marker bearing a well-known advertisement dropped out, and the shade of Zeno said reflectively: "I wonder what people did for book-markers before the Scottish Widows had a Fund".

"Hush," said the shade of Socrates, "Aristotle may hear you, and then he might have to point out the errors you have fallen into. Logic and jokes ought never to be explained or corrected. Arguing by analogy, it is only safe to joke with a logician, and that is where Aristotle failed. . . .

"But surely the space would not be infinite in length; it would be infinitely divisible."

"Now, you see, we come to my point: by infinite divisibility you think you would get an infinite number of finite lengths. An infinity of finite lengths must, so I argued, make up an infinite length. If not, it would be necessary to admit that we could come to the end of a process which had no end, by completing an infinite series of motions. You see, if a thing were to move, it would have to pass through an infinite set of little spaces, and we cannot imagine it passing an infinity of points any more than we can imagine a man touching an infinity of posts when he is out for a walk."

VII.

"But did not Aristotle say that a thing which moves does not count as it moves?"

"No, that would have been quite a good retort. That is to say, its irrelevance does not appear on the surface. But the fact is that the points in the path of a moving point, though they do not have an ordinal *number*, do have an ordinal *type*, which is something like it. . . . It was Hankel, in his *Geschichte der Mathematik*, who said that Aristotle said so. But Hankel then supposed a good thing quite by mistake: he really only meant to translate Aristotle, who said that counting was a joggly process, unlike motion. Hankel's

words sound as if he anticipated Mr. Russell's remarks on pages 181 and 182; but I could not help assuming as a matter of course, when I made up my first two puzzles, that the moving object itself defined its path by extension,—gradually making a list, so to speak, of the points it passes through. Nowadays logicians define infinite collections all at once, by giving a property that any member of the collection must have in order to be a member of it. This is what I did not realise till about forty years ago. What bothered me was that a moving thing *does* pass all the points of its path; and to argue about a path not enumerated point by point seemed like arguing about a place to which one had not been.

" Hankel thought he was quoting from Aristotle when he quoted from the early Peripatetic treatise *On Indivisible Lines*. Aristotle remarked, said Hankel on page 119 of his *Geschichte*, that ' we cannot indeed *count* an infinite multiplicity in a finite time; but the moved thing does not count as it moves (*das Bewegte bewegt sich nicht zählend*); for counting is a discrete operation which halts at every number and, in a sense, makes of it a resting-point; but the moving object does not halt at every single point (*De lin. insec.*, 969*a*, 30). The part 969*a*, line 26 to 269*b*, line 9, is thus translated by Mr. H. H. Joachim in vol. vi. (Oxford, 1913) of *The Works of Aristotle*, published under the editorship of Mr. W. D. Ross: ' The argument of Zeno does not establish that the moving body comes into contact with the infinite number of points in a finite time, if the period and the path of the motion are considered on the same principle. For the time and the length are called both infinite and finite from different points of view, and admit of the same divisions if considered both on the same principle. Nor is " thought's coming into contact with the members of infinite series one by one " counting, even if it were supposed that thought does " come into contact " in this way with the members of an infinite series. If, however, the possibility of thought moving in this fashion be admitted, still this moving is not " counting "; for counting is movement combined with pausing.

" ' It is absurd—we may perhaps suggest to our opponents —that, because you are unable to solve Zeno's argument, you should make yourselves slaves of your inability, and should commit yourselves to still greater errors, in the endeavour to support your incompetence.'

" That old dear, Ernst Mach, on page 74 of his *Principien der Wärmelehre* (2nd ed., Leipzig, 1900), says that my Dichotomy is an instance of a psychopathical phenomenon, the

'counting mania,' in which one thinks that one must count everything,—as if I were a person who counts the trees and posts when out for a walk,—and thinks he has solved my puzzle by saying that we need not therefore see a problem in it. . . . I suppose that any one who is puzzled by these logical difficulties and is not cured by such a suggestion, would have to have fresh air and mild exercise (to show that a tortoise *can* be outstripped), or something like that, to cure him. . . . People got what seemed an easy victory when they objected that I thought that the moving object was counting things one by one. If I could have expressed myself then in the language of to-day, I would have said: 'An object cannot move, for if it could the points it passes would have a transfinite cardinal number and a transfinite ordinal type'. . . . On page 317 Mach makes fun of people like me who are stopped by a thing they do not understand, and do not go on to fresh conquests notwithstanding.

"That last is the view too of the author of the *Indivisible Lines*, at the end of the passage I have just read, and seems to have been held by stupid people like Diogenes—as well as by schoolmasters and Sir Oliver Lodge. It is so difficult for some people to express anything but impatience or contempt for those questions of principle on which rests the whole structure of the building of science in which they often find gods to worship."

VIII.

"So," said the shade of Socrates, "your point was that we can never count to the end of an infinite series, and that —consequently, you thought—there is nothing beyond the 'whole of an infinite series' simply because it cannot be a *whole*. If we could, we must have been able to have completed an infinite series of steps of thought and thus have completed what cannot be completed or come to the end of what is endless."

"Yes, that was my point, and it was quite convincing before people arrived at the fact that an infinite series may have a finite sum. I do not mean what the older mathematicians meant by a 'sum of an infinite series'. They meant a *limit*, and did not believe, at any rate from about the middle of the eighteenth century till not long ago, that this 'sum' was actually a sum of an infinite number of terms: they did not believe that there were 'sums' of any other but finite collections of numbers. . . . You see, then, that the infinite divisibility of time was quite irrelevant; so

I used the infinite divisibility of time quite obviously in my second puzzle, and showed in much the same way as in the first that Achilles could never overtake the Tortoise —— "

"Yes, yes, I have often heard that before."

"—— Only the dividing points of the space and time 'condense,' as modern mathematicians say, at the end of the course instead of at the beginning as they did in the first puzzle. So, if you admit infinite divisibility, you must admit both that a thing cannot begin to move and that the slower of two things moves at least as quickly as the faster. I did not want to show here that the Pythagoreans implied that points had a size. Prof. A. E. Taylor, in his article "Continuity" in Hastings' *Encyclopædia of Religion and Ethics*, has tried too much to make my arguments about motion parallel to those about the unit. But then there would be no place for my last two arguments. Besides, it is quite plain to me that nobody really *could* assume infinite divisibility *and* a finite number of elementary points."

And then the shade of Zeno seemed to forget the method of question and answer in its newly-awakened interest, and, greatly to the satisfaction of the shade of Socrates, proceeded to sketch his arguments more intelligibly and quickly.

IX.

"Nothing remains for you, then, but to give up your belief in the infinite divisibility of space and time. In that case, you must admit that space and time both consist of a finite number of indivisibles. But that leads you again into difficulties, because the Flying Arrow is always at rest, and, on the other hand, by the two rows of bodies passing each other in opposite directions on a stadium, we can show that a body moves twice as fast as it does. Obviously, then, a man could easily overtake his shadow. Thus, you cannot hold that spaces and times consist of points and instants whether finite or infinite in number. . . . At least I thought so until I had read Georg Cantor and Mr. Russell and the others. Even they have only destroyed the validity of my first two arguments; the last two are still valid. . . . And I think the Flying Arrow can be made still better."

X.

There was a long pause, and at last the shade of Zeno had to be awakened out of a dream by the shade of Socrates, who naturally wanted a fuller explanation.

"Well," said the shade of Zeno, "originally I meant the

puzzle to refute the view that a finite part of time consists of a *finite* series of successive instants. Of course, in this case, the arrow would not move throughout any period of time you like to think of. This was what made that French philosopher mention my puzzle. I *can't* think of his name; it begins with B, and people used to talk about him before the war killed philosophy in most places. . . . Before the war he thought the mechanical element in life was the source of jokes; now he thinks that it is the source of German militarism. . . . I wonder if he thinks that militarism is a joke. . . . Some of his admirers think that his doctrine of the *élan vitale* is warlike and praiseworthily dynamic as opposed to static, peaceable, and contemptible logic. . . . I expect he is amused to see how one's followers deduce contradictory things from one's teaching. You know, lots of human beings think that Christ was rather warlike: I suppose the less said about the Sermon on the Mount the better. . . . Well, listen to this. It is from page 174 of this book of Mr. Russell's. 'We find it hard to avoid supposing that when the arrow is in flight there is a *next* position occupied at the *next* moment; but in fact there is no next position and no next moment; and when once this is imaginatively realised, the difficulty is seen to disappear.' But the difficulty with the arrow does *not* disappear if only the series is what Mr. Russell calls 'compact,' so that there is no next position and no next moment. Think of the series of rational numbers; it is enumerable and can thus be contained in an enumerably infinite set of intervals whose total length is less than any number you like to name. For example, arrange rational numbers between 0 and 1 in a simply infinite series; include the first rational number of this series in an interval of length $\epsilon/2$, where ϵ is a rational number which has been previously chosen as small as we like to take it, the second term is included in an interval of length $\epsilon/4$, the third is one of length $\epsilon/8$, the fourth in one of length $\epsilon/16$, and so on; then the whole infinite set of lengths including the rational numbers adds up to ϵ. Consequently, if space were only composed of rational points and time of rational instants, since there is no space passed over in every instant, there would be, as we see plainly by what precedes, no space passed over in *any* length of time. This is because our time and space are composed of an *enumerable* infinity of elements.

"We might even suppose that time and space were so made up that round every rational point in a line AB, there was a continuous interval of points, and analogously for

time. Then, even if there *were* motion throughout each one of these intervals, the total distance travelled by the arrow, however long AB may be, would be only ϵ."

XI.

The shade of Zeno paused here and seemed to think hard. Soon it went on again with a twinkle in its eye.

"And of course that also proves that there would be no motion even if space and time were, as I suppose they are, continuous. For consider that the series of rationals is compact, and consequently that any interval round any rational point, whether of space or time, includes other rational points. Round every rational point suppose that there is described a tiny little interval. It is obvious that these intervals, as they are all of finite length—though some of them may be smaller than others and, given any length however small, there are always intervals still smaller—contain *all* the points of the continuum supposed to be the path of the arrow. Now, we have seen, by what goes before, that the sum total of these intervals may be as small as we wish. Therefore the path of the arrow is as small as we wish. Therefore the arrow does not travel any distance.

"We can even pick out a *finite* number of intervals which cover any space however long, and which add up to a space as small as we like. Start from the rational point 0 and go on working to the right until you get to the point 1. The point 0, we will suppose, is contained, in our previous example, in the interval $\epsilon/2^m$; the right-hand point of this interval we will suppose to be contained in the interval of length $\epsilon/2^n$, and so on. In this way we gradually get to the point 1. For we must actually reach or pass the point 1 by an *enumerable* set of steps just as in the theorem known as the 'Heine-Borel theorem'; and, just as in that theorem, we can make one interval do for an infinite number of them which come up to a limit-point. Hence we can make a finite set of intervals whose total length is as small as we like completely cover a line which is as long as we like; hence also we can extend this result to two dimensions and see that it is possible with a little ingenuity to paper a large room with a postage stamp."

"Well," said the shade of Socrates, "why should we not be able thus to economise in wall-papering?"

"Simply because very many irrational points are not necessarily covered by a set of intervals such that each rational point is the centre of an interval. Thus, suppose

that a rational point r which is at the distance d from the point which corresponds to the irrational number mathematicians call e is the centre of an interval of length d; then the point e is not included in any of these intervals. . . . So a paperhanger's actions ultimately depend on a paradox: the paradox being, as the mathematicians would say, that the Heine-Borel theorem does not hold for *unclosed* sets, such as the set of rational numbers."

IV.—THE PLOT OF PLATO'S *REPUBLIC*. (1)

By P. S. Burrell.

I.

"What is the subject of the *Republic?* That seems a simple question, but it is hard to find the answer." So writes Mr. Lindsay at the beginning of his translation of the *Republic*, and certainly a perusal of his Introduction leaves the impression either that there is no subject or plot, or that Mr. Lindsay has failed to discover it. The whole is analysed into its chief component parts much as a book is analysed into a table of contents, but the connexion between them is not demonstrated, nor is there brought to light any dominating conception or idea to make them into a whole or real artistic unity. The result is that the work as analysed appears to be a congeries of fragments clumsily put together representing now what "the historical Socrates" said, now what he might have said, now what was the working out of what he said, now Plato's own doctrines. There seems to be nothing like a central nervous system communicating life and motion to the parts and unifying them into an individual living organism. In fact, it appears to be without a plot, a thing of shreds and patches. But if this impression is correct, how is it that the perusal of the dialogue produces an undeniable sense of its unity? By what right is it called "this great unity," or with what propriety does Jowett say, "nowhere in Plato is there more dramatic power". The soul of drama, Aristotle truly remarks in the *Poetics*, is the plot (μῦθος), and, if the *Republic* is really a great dramatic work, it must have a plot—some central nerve of argument, which makes it one and is the secret of its abiding power, freshness and charm. Whether it is regarded as a literary masterpiece, or a valid philosophical argument, unity of plot is essential: there must be a beginning, a middle and an end, with a ruling and pervading idea running through all like a guiding thread. If it cannot be shown to possess these characteristics, its claims to excellence, whether literary or philosophical, cannot be substantiated. Now Mr. Lindsay does

not deny the unity of the *Republic*. He speaks of its "real unity," and asserts that "all the parts fit wonderfully together and need each other". Nevertheless it is difficult to avoid the conclusion that the real unity is asserted, rather than demonstrated, and that he fails to show *how* the parts do actually "fit together".

One great obstacle to the belief in the real unity of the *Republic* is the conception of "the historical Socrates" and his relation to Plato or "the Platonic Socrates". It seems to be the burden of Mr. Lindsay's discussion of the subject of the *Republic*. Thus we are told that the Socrates of Book I. is the Socrates of the early dialogues, "very like probably to the historical Socrates".[1] Again "in Books II.-IV. he carries on the arguments in quite a different way and is much more constructive and systematic than he is ever represented in the really dramatic dialogues". Nevertheless "the arguments are still those which the historical Socrates might possibly have used".[2] Then "in Books V.-VII. he changes still more and teaches elaborate doctrines which we know that the real Socrates never held".[3] Thus the work is a compound of Socratic questioning and Platonic dogmatism. There is a change from the dramatic form to a less dramatic form and finally "an exposition of systematic authoritative teaching,"[4] in which the dialogue form is not of the essence. "When it begins, it is dramatic, a representation of the historical Socrates; it becomes a dialogue which conveys only Plato's teaching".[5] Nevertheless, in spite of this mixture of Socratic method and Platonic metaphysics, "in a sense the whole dialogue is a representation of Socrates, of how he talked, of his teaching, but above all of the value and meaning of his life". Hence "the difficulties in the form and subject of the *Republic* are to be explained by the relation in which Plato conceived himself to stand to Socrates".[6] It is this which accounts for the "curious form" of the dialogue; and surely it is no wonder, when the attention is preoccupied with the claims of "the historical Socrates" "who could not define justice," and Plato the metaphysician who could "only answer it by the help of Socrates" that "it is difficult to say precisely what is the subject of the *Republic*" (p. xiv). Seeing that the relation of Plato to Socrates, let alone Plato's conception of that relation, is still an unsolved problem, it is hard to see how it can be regarded as a successful solution of the difficulty of finding the unity of the dialogue. After all, the argument of the *Republic*, if it is of any philo-

[1] Introd., p. ix. [2] *Ibid.*, p. x. [3] *Ibid.* p. x.
[4] *Ibid.*, p. xi. [5] *Ibid.*, p. xiii. [6] *Ibid.*, p. xv.

sophical value at all, must stand by its own strength and must be quite independent of the question, What is the precise relation between Socrates and Plato? This is no doubt an interesting question to the historian of philosophy, who wishes to trace the affiliation of systems of thought. But it is an outside consideration which has nothing to do with the problem of the unity of a philosophical work. This must be decided by internal considerations. The fundamental question is 'Does it hold together or not?' If it does, it has a real plot and has value for the seeker after truth. If it does not, the fusion of Socrates and Plato will not make up for the deficiency. Happily, however, "the historical Socrates" is beginning to be found out and is not likely to give much more trouble. There seems to be reason to believe that he is only a mythical figure, of quite modern origin, created by philosophers, scholars and commentators, and resting on insecure foundations.

Moreover Plato has made it quite clear that he himself at least believed that in the *Republic* he had achieved a unity of the spontaneous inevitable kind, in which the process of argument carries the reader irrestistibly along with it; and in view of the stumbling of the critics at the propriety of the central portion of the work, it is interesting and significant to observe that it is just in that portion that Plato proclaims the unity of his work. When Adeimantus suggests that his portrait of the true philosopher will not find favour with the multitude, Socrates replies (p. 498):—

> That most people should not agree to what we are saying need not surprise us, for they have never yet seen our proposals in practice. Phrases they have seen somewhat resembling these patched and pieced into consistency, not falling into spontaneous harmony like ours. . . . Nor have they listened enough to noble and free discussions, such as seek intently after truth in every way for the sake of knowledge, and give a wide berth to smart controversial arguments in public trials and private discourses, which seek only after seeming and controversy."

If these words are anything more than empty bombast, which would be peculiarly inappropriate in the mouth of "the ironical Socrates," they must mean that Plato thought that he had attempted, and believed that he had achieved, the "spontaneous harmony" of which he speaks. When we consider the capacity of Plato, it seems extremely improbable that he should have deceived himself.

It would be easy to multiply passages from the *Republic* which testify to Plato's sense of responsibility in philosophical argument. "The subject of our argument," he says in the first book "is no trifling matter. It is the question of the right manner of life." "For our inquiry is concerned with

the greatest of all questions—a good and an evil life," he repeats in Book IX. And if any passage could illustrate it more clearly than another, it is the wonderful passage put into the mouth of Adeimantus in Book II., where he describes the moral perplexity of "young men of good natural dispositions," as Aristotle calls them, when they hear all around them the voices of sophistry and denial, saying "It is not easy to be bad and never to be found out, but if we would be happy this is the path we must follow, since the tracks of the argument point this way". Convinced as he was of the supreme practical consequences for good or evil of a theory of moral philosophy, it is inconceivable that Plato should not have taken care to make his own theory harmonious and consistent to the last detail, in order that he "might not slip from the truth and be overthrown just where a false step is most to be dreaded, and not only falling myself, but dragging my friends after me" (p. 451). We may well believe that the very magnitude of his enterprise kept Plato's head steady in its execution, and made him ring every brick, as it has been said of Butler, before putting it into its place. If it is suggested that the "wandering" or "inspired" fancy of a genius sometimes leads him into splendid inconsistencies, it may be safely replied that in the case of Plato it is especially true that "the spirit of the prophets is subject to the prophets," and that he never allows either imagination or inspiration to run away with his reason. We see then that Plato was fully conscious that a successful dialogue must have unity, that he realised the obligation to make his argument logically necessary, that he had the highest and strongest motives for carrying out these obligations to the full, and that he believed himself to have achieved success in all these respects.

In searching for the plot of the *Republic*, it is necessary therefore to take the work to pieces, so to speak, in order to find how and why the plot has been developed, and the guiding principles throughout must be on the one hand to believe that the Platonic Socrates truly and literally meant exactly what he said, and said exactly what he meant, and on the other, to be careful to keep together the form and content of the argument, that is, not to separate the question *what* is proved from the question *how* and *why* it is proved. In other words, the inquiry must consider both method and subject-matter at the same time, unity of form as well as unity of idea.

II.

The first thing to consider is the relation of Book I. to the rest of the dialogue. It is alleged to be different in style, method and subject-matter. Nevertheless, if we turn to Plato himself and read him without attending to any of the difficulties raised by learned ingenuity, we see that there is no doubt whatever in his mind as to the nature of the relation. He states with the greatest clearness, and with all the emphasis supplied by the context, at the beginning of Book II., that Book I. is a "prelude" to the rest. If then we are to believe that Plato meant what he said, whatever the manner, date and circumstances of the actual composition of the book, it cannot properly be described as an early dialogue of the 'humorous' or merely 'negative' kind, composed independently, and then somehow prefixed to the other nine books. Plato remarks in his discussion of education on the paramount importance of making the right beginning in any undertaking, and we may be sure that he did not violate his own principles in this "greatest monument of his genius," and that he knew quite well what he was about when he wrote Book I. It may safely be presumed that he took particular pains with the "prelude," which accordingly deserves very careful study.

The question to be answered is what object he had specially in mind in composing the book, and we have to inquire why the introduction took the particular form—the dialectical style, as it is called—which is specially characteristic of the early 'Socratic' dialogues of search, as distinct from the so-called expository, dogmatic style, which, except when broken by allegory, is employed in all the other books. If one seeks for an answer in the nature of the subject-matter of the *Republic* as a self-contained and self-explanatory whole, the answer is clear. The introduction has been framed strictly in accordance with the Socratic method which assigns the first place in philosophical discussion to the raising of ἀπορίαι with a view to realising the nature of the problem and of getting the issue clear. Plato is merely doing what every moral philosopher does or should do at the commencement of his work, namely showing how the moral problem arises and what it really is; but, unlike the modern formal treatise, he naturally adopts the more picturesque, dramatic and telling way to which the discussion of philosophy in public and in the market-place had made him accustomed. Now discussion naturally begins with the expression of

several different views; but, if it is to lead to anything, it ultimately settles down into the development of the views of the individual whose views win general assent and who therefore carries the rest with him. This is exactly what happens in the *Republic*. There is a definite progress in the succession of *ἀπορίαι*, and not mere delight in tearing up arguments as they happen to be brought forward. It is also gradually made plain how moral problems must be handled. It is shown that merely controversial methods are insufficient, and that the right method is to ask the right question first and so begin at the beginning. It is because the various theories advanced in Book I. do not begin at the beginning that they are proved inadequate and self-contradictory. If, then, a satisfactory answer is to be found it is necessary to make the right start, so that you will be carried straight on without a hitch to the middle and the end. The *εἴδωλόν τι* of justice at the beginning of the ideal state must be identical in principle with the fully revealed and fully developed principle at its completion. To use a metaphor from the racing ground, it is necessary to practice starting, if you want to "get off" well and therefore "finish" well in the actual race. In ethical inquiry this preliminary process is necessarily a critical one, and must necessarily also be of a negative character. It would, however, be useless, if it were merely a negative process and nothing more, and unless it were directed from some consistent point of view. It is in fact a commonplace that purely destructive criticism is futile, and to be worth anything criticism must be based upon or imply positive constructive principles. These conditions are completely satisfied in Book I. The point of view of Socrates coincides exactly with his point of view in what follows, for practically all the main principles of the *Republic* are anticipated, if not distinctly laid down, in Book I. The clear constructive groundwork at the bottom of the critical cross-examination is one of the surest evidences that Plato designed the work expressly as an introduction, and was not writing an independent dialogue of the "early humorous negative style". Bearing in mind, therefore, the contemporary literary conventions in regard to philosophical compositions, and the use of the dialogue as the current vehicle of philosophical teaching, we may say that the rules of good method, on which both Plato and his master had bestowed much attention, compelled the author of the *Republic* to adopt a critical, dialectical, and, as Socrates was invariably playful and good tempered in controversy, an ironical, humorous style in the introduction, and that there is no need to seek an explanation

either in the hypothesis of earlier composition, or in that dubious and probably fictitious personage, "the historical Socrates". It is a fair demand that, if you demolish an unsound view, you should set up something sounder in the vacant place. This reasonable demand is complied with by Plato, and there is no occasion to drag in the difference between Platonic teaching and Socratic criticism to explain the transition from criticism to exposition. It seems necessary to revise the doctrine that Socrates was always critical and sceptical and never expository. Surely the words ascribed to Socrates in the *Apology*, "I do nothing but go to and fro, endeavouring to persuade you all, both young and old, not to care about the body or riches, but first and foremost about the soul—how to make the soul as good as possible. I tell you that virtue is not the child of riches, but riches of virtue; and so with every other good that men possess, alike in private and in public life," represent him as a teacher of positive doctrines, unless words have no meaning.

So much for general considerations. Let us now turn to the substance of the book. The opening conversation shows how the moral problem arises and is always liable to arise in perfectly ordinary circumstances among quite ordinary people. As morality is a matter of interest not merely to the student or the philosopher but to all men in all places at all times, it is peculiarly appropriate that it should be represented as arising spontaneously out of a casual conversation. Cephalus is an old man, who takes life pretty much as he finds it. Neither he nor his companions, whose views he recounts, belong to the class of men who are troubled with intellectual difficulties: they are more concerned with their experiences, and their feelings, and they state their likes and dislikes. If they all had the same feelings and experiences, if they all suffered slights from their relations, and all regretted the loss of their youth, no problem could arise. But their experiences are not the same. Cephalus at least has had a happier experience than the rest, and this sets him thinking. The other old men take for granted that old age is the cause of their misery, following the ordinary instinct of putting the blame on anything but themselves. Cephalus thinks he can assign a truer cause for his friends' troubles, and finds himself supported by the experience of Sophocles, who welcomed old age as a haven of peace from the stormy passions of youth. The ethical problem thus arises at the very commencement in the experiences of the old men. Their judgments on conduct differ, and the question inevitably arises, which judgment is right? Cephalus is prepared to back his own opinion against

another, and thereby starts the problem of morals. For this begins as soon as any man finds himself at variance with others in his judgments on human action or character. Properly speaking therefore it is not Socrates who raises the ethical problem. It raises itself. What Socrates does is to guide the discussion into channels which lead to its solution. He draws Cephalus out and makes him think aloud. The old man was asked to give his own experience of old age, but he cannot give it except in contrast with that of others. Age naturally suggests youth, and he ends by giving his judgment on life as a whole. His verdict is tantamount to an answer to the question (not yet explicitly formulated) of the *Republic*, 'Which is the best life for a man to lead?' In other words he attempts to define the meaning of good, which is the burden of the whole dialogue. When asked what he considered "the greatest good" he had derived from his wealth, he replied "not to deceive or lie to any one even involuntarily, and not to owe any sacrifice to God or money to man". It is characteristic of the phase of moral consciousness he represents that he expresses his views in a negative form. But he quite clearly makes 'good' consist in morality or virtue. Truth and honesty are of primary importance, wealth is secondary and valuable only as a means. With this position, which is identical, roughly speaking, with his own, Socrates has no quarrel, and accordingly he does not submit it to the dialectical process as he does the views of Polemarchus and Thrasymachus. What he criticises is the inadequate formulation and confused conception of a radically true position. A brief consideration of the conversation may serve to bring out these defects and to show how it is the first step towards the exact formulation of the moral problem at the beginning of Book II. It may be divided into four parts.

First, there is the contrast between age and youth. In youth the passions predominate: old age brings release from their tyranny. Thus the question arises as to what is the right place of the passions in human life, a question which becomes so important later on. Is happiness the fruit of indulging them? Or is it only obtained by getting rid of them? But as their ebb and flow are regarded as an inevitable incident in the course of nature, whether happiness is bound up with them or not, it must, in either case, be something beyond human control. Is it fanciful to connect this with the final verdict in Book X. that virtue is without a master (ἀδέσποτον) and every man choses his own destiny? Here at the beginning, however, there is no suggestion of

either problem or struggle. Nature raises the tumult and calms it again. The whole thing is a matter of time, accident or natural process. The passions have their innings and then go out. Nevertheless Cephalus has got "the eye of experience" which enables him to see with Sophocles that the rule of the passions is an evil, like that of a furious and cruel master—is in fact unconstitutional and tyrannical. And the thought underlying the discussion is that happiness is unattainable till the rule of the passions is overthrown. Here then is introduced the dominant question of the *Republic*, and human life—the claim of passion to be supreme in the individual, and the state. Secondly, there is the relation of character or disposition to happiness. Cephalus cannot admit that life can be split in two—into passionate youth and peaceful or painful old age, as the case may be. The secret of the different experiences of himself and Sophocles on the one hand and his unhappy associates on the other is the difference of character. Old age is pleasant or painful—aye, and youth too—according to a man's temperament, the particular bent (τρόπος) of the individual. But it is never suggested that a man is responsible for his character. It seems to be looked upon rather as dependent on the endowment of nature or a particular combination of circumstances—an inadequate view of the facts, which is corrected in Book X. Of course as long as happiness is looked on in this light, no real problem can arise. One man is lucky, another is unlucky; that is all. Still Cephalus is clearly convinced that character somehow determines happiness and the suggestion is that if you want to be happy, you had better look to your character, and that happiness is therefore ultimately a state of the soul. This is, in germ, the teaching of the *Republic*.

Thirdly, there is the relation of external goods to happiness. Wealth may sweeten old age, but only that of the good. Material prosperity may be indispensable to happiness, but does not confer it unconditionally. Its chief use is to minimise the temptation to wrong-doing. If you are well off, it is so much easier not to cheat or lie or avoid paying your debts to God and man. Thus wealth is really only good as a means. And not only so, it is no good as a means to every man, but only to the good man. The more Cephalus thinks aloud, the stronger becomes his conviction that happiness is an inward thing and depends on goodness of disposition and not merely on external wealth.

Fourthly, there is the relation of religion to happiness. The thought of death and something after death furnishes the

strongest motive to do the right. And the approach of death makes a man examine his conscience very carefully. The stories of what is going to happen in the next world, therefore, would seem to be a great support to morality. This part of the conversation also, brings out into strong relief the view that happiness is essentially an inward thing. Moreover it is a deeper thing than anything hitherto suggested —not merely a good, easy disposition, which is the gift of nature, nor the innocence, never exposed to temptation, of a man whose lot has fallen on a fair ground, but the consciousness of a life well spent. As Cephalus goes on thinking aloud, his notions of morality become clearer and deeper. When he describes the state of an old man's mind as he thinks of the approach of death, he drops out of account the question whether or not he has had wealth to help him against temptation or not, and states the issue quite clearly. The all-important thing is whether a man on reviewing his past life finds wrong-doing and injustice in the record or not. A clean record is the only thing that can bring a man peace at the last.

Looking back on this very brief and simple conversation we see that it brings forward all the chief rival theories of happiness or the chief end of man, bodily pleasure, external goods, honour (for it was the dishonour done to old age which set the old men talking), and virtue: and that the respectable citizen declares in favour of the last. Before passing on certain points may be noted. The conclusion of Cephalus is based on a review of life as a whole: he generalises from a complete experience, and represents the moral vision of "the eye of experience," which belongs to the aged. The conversation supplies the starting-point from which a scientific moral philosophy must begin, a solid basis of data consisting in unsophisticated moral judgments which are the facts with which ethical science deals. It produces, however, only an empirical theory, and, theoretically at least, crumbles at the first touch of criticism. Nevertheless it represents an essentially sound and true point of view, which is in fact identical in its conception of the good with that expressed later on in definite terms by Socrates. Cephalus implicitly ranks justice among 'the fairest of goods' (p. 358), like Socrates at the beginning of Book II. Further it takes account of immortality and judgment to come, although it only takes them for granted and makes no attempt to prove their reality. One may say, in short, that it represents in morals that *securus judicat orbis terrarum* the essence of which it is the aim of Socrates to vindicate. Accordingly, he does not find

any fault with the doctrine as such; he only criticises its inadequate formulation. Meanwhile, the problem of ethics has received a real, if rudimentary, introduction; the issue between justice and injustice has been stated with some clearness, and the question of the meaning of good has been raised.

How then does Socrates criticise the standpoint of Cephalus, and how does his criticism make for a clearer realisation of the moral problem? Cephalus tacitly assumes that justice is essentially a good thing, and a good of the highest kind. Moreover its goodness operates in two directions; it benefits not only the just man by giving him peace of mind but also the man who is treated with justice, for he is secured from injury. Justice, in fact, like mercy is 'twice blessed,' being both a man's own good and another's good at one and the same time. These two goods are impossible to disentangle. If there is more than one person actuated by the principle of justice, it is easy to see that it is a principle of mutual benefit to all parties to the relation set up by it. But the moral situation contemplated by Cephalus, though in a sense it anticipates the doctrine of Socrates that justice is a socially useful principle, differs from that described in the ideal state because of its negative character. What the man who is represented as examining his conscience in his old age wants to assure himself is that he has *not* done wrong, rather than that he has done right. Similarly, justice is defined in a purely negative way—not practising deception, not telling lies, and not being in debt. Morality, according to Cephalus, consists in the not doing of certain things: certain things are regarded as taboo. Now this is the standpoint of custom, convention or tradition, which Cephalus represents, and from which all moral inquiry must start, whether to vindicate, correct or overthrow it.

It is in the attempt to provide a working formula for conduct that the conventional moral consciousness breaks down. Conceiving justice to be a good thing, it ought to provide such a definition of it as will bring out and safeguard its good qualities. Instead of this, it not merely confuses a principle with instances of the principle, but it expresses its conception in a negative way. By so doing it both narrows its conception of the moral law and weakens its power of practical guidance. For so long as the moral law is expressed in a negative form, it remains tied down to the particular and can never operate as a universally applicable principle. It may serve as a good rule of thumb in a state of society where custom rules supreme, but breaks down

completely in the face of novel conditions. In short, a particular set of rules can never be a satisfactory definition of morality, for by the nature of the case particulars are mutually exclusive, and therefore can never cover all situations. In Socrates' language it 'sometimes' expresses the principle of justice, and 'sometimes' does not: 'this very thing, justice' appears to be sometimes just, and sometimes unjust. But this is a plain contradiction, which makes it necessary to abandon the region of the particular, the negative prohibitions of the conventional moral code, and to seek for some universal positive principle, which can account for all the cases that can possibly arise and so act as an infallible and readily applicable guide of life. Now moral philosophy really begins with the recognition of the inadequacy of conventional moral rules and the attempt to substitute a principle for a code. But before this can be achieved, it is first of all necessary to expose the inadequacy of imperfect accounts of morality, and Socrates deals with Cephalus's account in a very telling way. He tests it by applying the very conception of goodness which it implicitly presupposes. The assumption of Cephalus is that justice is a good thing both to the doer and the recipient, and it is therefore reasonable to expect that strict compliance with the formula of justice will always result in good to both. It is therefore somewhat disconcerting when Socrates confronts its author with a possible case which literally and strictly squares with the formula, but would obviously not be a good thing for either party to the transaction. He remarks that everybody would be agreed about such a case, in which it is perfectly clear that you cannot avoid telling lies or not paying your debts, although such conduct is forbidden by the formula. The formula therefore is not the true definition (ὅρος) of justice: it expresses neither the nature nor the extent, nor the limits of justice. Polemarchus perceives that it breaks down, just because it fails to express the principle of goodness, of which justice was implicitly assumed to be a manifestation. The position of Cephalus therefore leads on logically to the position of Polemarchus, just as his leads on to that of Thrasymachus. There is in fact a progress in the presentation of the moral problem, and it is not the case that the various solutions offered take place one after the other, without any particular connexion between them. The great thing, according to Cephalus, is not even involuntarily (μηδὲ ἄκοντα) to deceive or lie, or owe anything to gods or men. Voluntary abstinence from these things is not enough; they must not even be done involuntarily. The significance of

the word *ἄκοντα* in the context has not perhaps received the attention it deserves. And yet the Socratic paradox that no one does wrong voluntarily, with the connected doctrine that virtue is knowledge, should have secured it some degree of attention. The significance of the word and the implied reference to the connexion between the will and justice is made clear by the case brought up by Socrates. For by it he very skilfully and convincingly shows that circumstances may quite possibly arise in which the rule of Cephalus must be deliberately and voluntarily violated in all three particulars. It is not a case in which the will through frailty or ignorance fails to respond to the call of the moral law as ordinarily conceived. It is a case in which any sensible man acting with full knowledge and with his will under complete control would freely, nay wilfully, defy the rule. If you borrow a sword from a man in his senses and he subsequently goes mad, then "everybody would say" (*πᾶς ἂν εἴποι*) that you must *not* tell him the whole truth, but must deceive or lie to him, also that you must not give him back his own property, but keep what does not belong to you, and finally that you must do all this deliberately, not against your will (*ἐθέλων*), for if you acted otherwise you would not be acting justly. Here then is a clear and patent contradiction. Justice, 'the real thing,' commands the violation of the rule, which has been laid down to secure its realisation. Cephalus, then, finds his formula in conflict with the judgment of universal experience, and like an honest man he admits his mistake, acknowledging that the judgment of all men is right. In doing so he is not yielding to the claim of a majority to override the opinion of a minority,[1] even a minority of only one; he is merely recognising the claims of clearer knowledge, which he identifies as his own, as well as belonging to every one else without exception. He has, in fact, reached a true universal, however dimly conceived. His formula has proved false in theory and false in practice. It leaves some facts out of account, since it does not cover all possible cases, while as a rule of conduct it would stultify itself, for it would lead a man who desires to be just to commit an injustice. It fails hopelessly as a definition of 'this very thing, justice'; for it expresses neither its nature, nor its limits, nor its extent. It does not give what is wanted either for theory or for conduct, *viz.*, a correct and adequate account of justice, the whole of justice and nothing but justice. Cephalus, however, is not a philosopher; he is not at all upset by the refutation of his formulas, or put out by

[1] *Gorgias*, pp. 472, 482.

the discovery that his ideas are in rather a muddle. At any rate he shows no desire to reduce them to consistency, and having solved the practical problems of life has no intention of being drawn into what he no doubt considers rather fanciful theoretical discussions. He leaves the settlement of the problems to the younger wits, and characteristically betakes himself to the practice of his religion, not realising that the investigation of justice and happiness and their relation ultimately involves the criticism of religion also, as is made clear in Book II.

But to return to the contradiction, which now presents the problem in clear relief, the question must be asked, What was the secret of Cephalus's failure to give an adequate and self-consistent account of the facts of conduct? In one word, the answer is that he did not, in Socrates' phrase, 'know himself'. His definition represented only a part and not the whole of his mind. Hence he had used terms without realising their full meaning, and as he did not really know what they meant, he could not produce a satisfactory definition of them. But as soon as Socrates 'brought up' his test case, according to his inductive method, he at once got a clearer knowledge of his own mind. He realised at once the inadequacy of his account of justice, and saw intuitively that it was condemned by the deeper and more valid part of his moral consciousness, which he in common with all men possessed and which, until awakened by the stimulus of the Socratic induction, had slumbered in the background. It is worth while to examine carefully this test case, because it illustrates the close connexion, which is not at first sight apparent or always recognised, between the Socratic maxim *γνῶθι σεαυτόν* and his methods of induction and definition. It is a mistake to confine the inculcation of self-knowledge to the negative process of reducing an opponent to helplessness, after which the vacant mental room is to be furnished by clearly defined general notions obtained through the method of induction. Such a view finds no support from a close study of Book I. of the *Republic*, where the production of telling instances and the demand for clearly defined notions are precisely the means of convincing opponents of ignorance and of enlarging their self-knowledge at one and the same time. The three aspects of his teaching are in fact vitally and intimately connected, for it is by asking for a definition, and then testing it by an instance which falls within the range of its application, that he throws a search-light as it were on a region of a man's consciousness which he does not realise that he possessed, and which enables him to see his

own mistake, and to convince himself of his ignorance or error. The method of arguing from admissions and 'his accustomed irony' are also aspects of the same method. It is because both the parties to the discussions admit what they *know*, *i.e.* admit to be true, that the argument can reach a conclusion that all can accept. Nor is the Socratic irony merely the result of intellectual humility whether real or pretended. It is the expression of a belief that argument, if it is to have any value, and not be a mere fighting with shadows, is a joint search after truth, in which the vanquished party must not only be conquered but acknowledge that he is conquered. He must admit defeat, but without any shame or regret, for it is accomplished by the dawning of his own self-knowledge, which makes him at once author and partaker of the victory over himself. It seems, then, to be a mistake to regard Socrates as a mere master of negative dialectics, and no teacher of positive truth. Such a one-sided view is the result of separating his method from his doctrine. But the truth is that his method and his doctrine are as incapable of separation as the convex and concave of a circumference. His object was to find out human nature. His method was to drag it out of men's minds by induction and definition; his doctrine was the truth about human nature, which his method brought to light. Hence it is important not to separate the form and content of the argument of the *Republic*. If they are kept together, the difficulties which have been raised about it will melt away.

This view of Socrates' methods will be further developed in this attempt to elucidate the plot of the *Republic*. Meanwhile, it is necessary to return to the state of the argument as it was left by Cephalus. He had been induced by Socrates to recognise the inadequacy of his own theory; for Socrates had successfully appealed from his experience as represented by his formula of justice to his deeper experience, which justified its violation. As soon as the test case was put to him, he could not help seeing *that* his definition was wrong, but he did not see or did not care to see *why* it was wrong. He does not care to discover the presupposition underlying his assent to Socrates' criticism. That task is left to Polemarchus 'the heir of the argument,' a significant expression, like other similes and metaphors in the *Republic*, indicating that the argument with Polemarchus follows by a logical necessity out of the conversation with his father, just as we shall see that the argument with Thrasymachus is an inevitable sequel to the confounding of Polemarchus. What then was at the back of Cephalus's mind when he admits the

cogency of Socrates' objection? Clearly this. He felt that, if he stuck to his rule, he would be doing what he did not in the least want to do, and would not be doing what he did want to do. For his intention was to do good, not harm, and if he adhered to his formula, he would be violating his will for good. Accordingly, like a sensible practical man, he would not let abstract consistency stand in the way of right practice. It is the felt obligation that the just man must do good which, in direct defiance of his own formula, will prevent him from telling the whole truth or returning his sword to a madman. This is the presupposition which Polemarchus seizes to bolster up his father's theory; and by dragging it into clear view, he pushes the argument a step forward. Polemarchus is convinced that justice is a good thing and proceeds to define it in such a way as will emphasise its fundamental goodness. His definition, however, has not been thoroughly thought out, and so far from fulfilling its purpose, immediately raises the question whether there is any goodness in justice at all. The moral problem thus assumes a much clearer and more acute form, what is the good of justice? And this in its turn inevitably leads on to the consideration of the fundamental ethical question, 'What is the meaning of good?' The object of Book I. of the *Republic* is to state the issue, and of the rest of the dialogue to furnish the solution.

III.

Unlike Cephalus, who has nearly finished his course, Polemarchus has his race yet to run. He is a young man who is starting on his career, and his business is not to reflect on his experiences, but to make his choice of the alternatives which life offers. He wants to make the best of it and he wants to know clearly what to aim at. Cases may arise in future in which he may be called upon to do what is really unjust, but is not formally so. He might be tempted by circumstances to act contrary to any given formula of justice. But he believes in the obligation to act justly, and he is anxious to be forwarned and forearmed with a theory which will enable him to act effectively in doubtful cases when they arise. He wishes to be equipped with a knowledge of the form of justice, which will be applicable to all cases. He desires to know the difference between the appearance and reality, a difference which comes to the front later in the discussion with Thrasymachus. To make this stage of the argument quite clear we may describe

the problem again thus : Life offers to Polemarchus two alternatives, (1) justice (morality), (2) injustice (immorality). He instinctively approves of the first, the nature of which he thinks he understands and for which he has found an authority which he regards as superior to that of convention or custom. The result of the argument is to show that he does not understand it at all ; that his theory of justice or morality is untrue, that his authority is an insufficient guide, and that if he follows out his own theory literally and insistently without wavering he will miss the very thing he aims at. Instead of doing justice, it is just as likely that he will be doing injustice, for justice on his theory may result in injuring the good, and turn out to be a ' kind of thieving '. His definition " it is just to restore to each what is owed to them," is turned inside out by the criticism of Socrates. " What is owed to each " becomes in turn " that which is appropriate to each," and " the rendering of benefits to friends and injuries to foes ". Justice, which is implicitly assumed to be a good, is found to be useless in the using of anything, and only useful in the non-using of anything. Thus, what Polemarchus presupposed to be good and useful, turns out to be useless and good for nothing. Nay more, it turns out to be actually harmful, for the just man is made to appear as a possible ' thief '. And so Polemarchus has to admit in the end that he does not know what he meant by his definition. If justice is to be defined as Polemarchus said it must be, you may get this result on the one hand that it is just to do evil or injustice to those who do you no wrong —a conclusion which contradicts the moral sense — and on the other, that morality is in no intelligible relation with human life, as it is found to be of no use in the conduct of life, which could therefore go on quite well if morality were eliminated. If life consists in making use of things, it seems to be suggested, then morality, being of no positive advantage, could be quietly dropped out as a negligible quantity. It makes, so to speak, no difference to human life, being of no direct benefit in the using of things. And a thing not directly beneficial runs a great risk of being positively harmful. The argument then seems to take us some way on the road to the position of Thrasymachus, which abolishes moral distinctions and gets rid of justice altogether as either useless or destructive in the pursuit of good.

Polemarchus's definition, therefore, may result in a mass of contradictions, and incidentally it leaves uncriticised the important conceptions of friendship, association, obligation, good and evil, which an adequate theory of morals must take

account of. Polemarchus earnestly desires to be just, but he is clearly liable to fail, because he only *opines* about justice and does not *know* the reality of it, and consequently cannot properly express or define it. The practical bearings of the question "What is justice?" are now clear. So far as Cephalus is concerned, his life is over and there are no problems to be solved for him. As long as the reign of customary morality is undisturbed and conduct is governed by a recognised code, no difficulty arises. But with Polemarchus, who is on the threshold of his career, and—shall we say, of a new moral world—the case is different. His whole interest is to be just: like a generous young man he is fired with ideals, and thinks little of happiness or consequences. The idea of self-interest or personal good is in the background. But he cannot get his ideal to work in a manner which is free from contradiction. The result is the moral bewilderment (ἀπορία) of the man of good instincts. He is powerless when the definition laid down by his authority is overthrown. He is perplexed by all these contradictions, but he is shocked at the idea of justice ever being the same as injustice—at the idea of there being ultimately no distinction between them. Meanwhile, the way has been prepared for the third stage of the argument. The cross-examination of Polemarchus had made it appear at least conceivable that justice was not inherently distinct from injustice. And it is at any rate clear that to understand justice it is necessary to understand injustice also. The question therefore now becomes acute, "Is there after all any real difference between them, or are they only names?" The time is now ripe for Thrasymachus to come to the front, and the fact that the argument with Polemarchus necessarily leads up to the argument with Thrasymachus seems to be suggested by the account of his impatience to take part in the discussion. His view is precisely that there is no difference between justice and injustice. Unlike Polemarchus, he has shaken off all prejudices in favour of morality, and he has reverence for neither custom nor authority. He has seen the contradictions and perplexities of moral inquiry and reconciles them to his own satisfaction by the assumption that justice and injustice are really appearances or names of the same thing—self-seeking. And accordingly he quite appropriately argues indifferently for justice and injustice, according to the exigencies of the argument, though he gives to justice quite a different meaning from that intended by Cephalus and Polemarchus. His attitude may thus be expressed: "We don't want to be just—justice is a mere name. We want to do the best for our-

selves, and we will act in the way which will best promote our interest. Every one does so. It is the way of the world. Justice is the name given to the pursuit of self-interest. It is the interest of the weaker or of the stronger according to the point of view. If you are not satisfied with this statement of the situation, well! you need not be squeamish about it. You can call it injustice, for the two words really mean the same thing. Names do not matter." In fact according to Thrasymachus all the attributes of justice belong to injustice.

This theory claims to cover all cases and to involve no contradiction; for all motives are reduced to one kind. But it explains the facts of morality only by explaining them away; by asserting that they do not really exist. Now this is truly "a stubborn position," for the standard is not only to be explained; its very existence has to be vindicated. The controversy is really about the nature of reality, whether there is or is not a certain order of existence, *viz.* a moral world. As such, it involves metaphysical discussions about 'being'. These accordingly appear in their due place in the central portion of the *Republic*, and it is impossible to conceive how they could be avoided. If this view is correct, there appears to be no ground for the assertion that Books V.-VII. "contain elaborate doctrines which we know that the real Socrates never held".[1] If Socrates was a real person, and ever really argued with Sophists on moral questions, he could not help getting into metaphysical questions, and it is difficult to see how these could be dealt with without considering the nature of universals. Here then may be noted in passing a real link between the so-called "independent dialogue" (Bk. I.) and the alleged non-Socratic metaphysics of Books V.-VII. The same conclusion is forced upon us from the side of 'the good'. In the argument with Thrasymachus Socrates has got to the real brunt of the battle; which cannot be ultimately decided till the conception of the good has been examined. For you cannot settle whether there is any difference between justice and injustice, nor decide which is the better or more profitable, by merely defining justice. It is necessary also to determine the meaning of good.

Socrates proceeds to deal with the new definition in the same way as he had treated the two previous definitions, and the result of the argument is to show that it leads to contradictions, *i.e.* practically refutes itself, and that, if disregarding moral sense you act only for self-interest, you will inevitably miss it. It is worth while to note in passing that

[1] Lindsay's Introd. to Trans. of *Republic*, p. x.

whereas Polemarchus was interested mainly in motives and principles, Thrasymachus is interested mainly in consequences—in what justice will bring or is good for. This is a difference which becomes very prominent later on. And thus the important question of the good of justice and the proper end of man comes forward. Thrasymachus, however, does not exhibit his views in their extreme form all at once. He pays some tribute to convention by defining justice, and the object of Socrates is to make him tear off the mask, and range himself with absolute frankness on the side of injustice or immorality.

The argument with him consists of three parts: (1) pages 336-343, in which his definition of justice is turned "upside down"; (2) pages 343-348 in which the thesis that injustice is more profitable than justice is added to bolster up the definition of justice as the interest of the stronger. But it is recommended chiefly as a profitable thing; it is not yet held up to admiration as an ideal, as a thing 'beautiful and strong'; (3) pages 348-end. The argument can go no further, one side says justice is more profitable: the other that injustice is so. It is therefore necessary to argue till they come to an agreement. Socrates asks Thrasymachus if justice is a virtue and wisdom. No, he replies, it is vice and folly. This is, as Socrates says, "a more stubborn position". Injustice, indeed, is now definitely an ideal. It is "beautiful and strong," and takes on all the conventional attributes of justice. The question is now no longer one of accurately defining an acknowledged virtue, but of settling the conflict of ideals—of what we really think good, and what we ought to think good. Socrates first makes his opponent admit "after floods of perspiration" that justice is good and wise, and then that it is strong, and finally proves that the just live better, because being virtuous they perform their functions well.

The argument may now be given in detail. The sophists, like Ulysses, had seen many men, cities and governments, and they could not help seeing that law differed from place to place, and to all appearance was an arbitrary thing. It was not the same thing, for instance, in a democracy, an oligarchy, and a monarchy, or tyranny. To superficial observation at any rate the only common element in the varying systems of law was that they were all in the nature of commands imposed upon subjects by rulers, and consequently the common characteristic in the conduct implied was obedience to the will of the ruling power, whatever it might happen to be. Morality, according to such a view, is the child of compulsion and springs from the habit of submission. If a man disobeys

the law, he is punished. Surely therefore justice is done not because it is willed for its own sake but for fear of punishment. On the part of the subject, it appears to be true that his weakness, not his will consents, and if he could overthrow the powers that be and get into the saddle himself, he would soon change all that. This view of the relativity of the moral standard, that it was not a natural thing rooted in reality, but liable to be alternately upset and set up according to arbitrary caprice was made especially plausible by the constant revolutions in Greek states, in which oligarchs and democrats were constantly turning one another out, overthrowing one set of laws, establishing another, and generally oppressing one another by ruling in their own selfish interest. Further the sophistical observer noticed quite correctly that government is of the essence of society. Though governments vary, there is always some sort of government. Society consequently consists, broadly speaking, of two great classes at least, the rulers and the ruled, and it is the function of the former to ordain and enforce the law and of the latter to obey it. Thus justice appears to be one thing for the ruler and quite another thing for the ruled, and the situation everywhere created is the exploitation of the weak by the strong. Society is in fact a mixture of oppression and obedience. Thrasymachus, then, has laid his finger on one of the most important facts about society, *viz.*, the universal existence and necessity of direction or rule. He puts a cynical interpretation on it, but he nevertheless gives the cue to the whole idea of the dialogue—the paramount importance and significance of the principle of direction, government and authority in human affairs. He also takes the right point of view that if you want to study the morality of the individual to any purpose, you must study "the larger letters," the concrete fact of society, human beings organised in association with one another. It is clear that in order to find out what justice is, to discuss it satisfactorily it is necessary to settle the question of the relation of the individual to his fellows and the whole state, of the ruler to the ruled and *vice versa*, to ascertain, in Green's phrase, "the principles of political obligation".

How does Socrates deal with Thrasymachus, the representative of naked cynicism and moral scepticism? His logical method of refutation is precisely the same as before. He convicts the theory of self-contradiction and inconsistency with the facts of life. The formula of Thrasymachus is "Justice is the interest of the stronger". Socrates admits that justice is in harmony with interest, but objects to the

qualification of "the stronger," and proves that the rulers, being admittedly fallible, sometimes order what is not for their own interest. Thrasymachus, however, is not so easily cornered. He shifts his ground and explains that the interest of the stronger is only that which is ordered *really* in his interest, *i.e.* by the ruler *qua* ruler, or the ideal ruler who invariably enjoins what is really best for himself and never makes a mistake. This is a preliminary hint that morality must be studied on the ideal plane. It is the first indication that morality cannot be settled by appeals to mere experience, simply because morality has to do with perfection, and a standard of perfection is not met with in experience. Socrates, however, by an appeal to the practice of the arts, among which he and the company agree that ruling is to be classed—a classification, which is not merely fanciful as the later books, in which Socrates is quite in earnest in regarding ruling as an art, show—proves that the art of ruling as such never seeks its own interest, but only that of the ruled, just as the medical art as such seeks the interest of the patient. Thus, whether Thrasymachus is right or not in asserting that the ruler as such enacts what is best for his own interest, it is nevertheless true that he as such seeks the interest of the ruled primarily. It is quite natural that Socrates does not refute the conception of the ideal ruler, but only Thrasymachus's application of it, for the subsequent course of the argument shows that the truth consists in the combination of the two views, though in a different sense from that which Thrasymachus intended. The net result of the argument is, as is acknowledged by all, that the definition has been "turned upside down". The attempt of Thrasymachus to escape refutation by explaining his terms in an ideal abstract way has led to a complete reversal of his explanation.

Socrates adopts a method, it is to be noted, which is not merely eristic, but is pursuing his maieutic art. He is causing Thrasymachus to deliver himself, in spite of himself, of ideas which form the backbone of Socrates' own view, *viz.*, the absolute identity of interest between the rulers and the ruled. In the sequel, consistently with the doctrine by which he overthrows Thrasymachus, he shows that the great want of society is to be ruled by rulers properly so called—rulers who know how to rule, because they know the real nature of justice, courage, etc., *i.e.*, the principles on which society is founded. For granted that justice is equivalent to what the ruler commands, then you do not get justice unless the ruler commands rightly and with knowledge. If he does not do so, the result is only what seems to be justice—what

the fallible ruler opines to be just, which may just as likely as not be different from justice. Thus, Socrates extracts from Thrasymachus's theory grist for his fundamental doctrine that virtue is knowledge—that you cannot be virtuous or just in the true sense, unless you know how to be virtuous or just.

Thrasymachus having had no success with his theories of justice, quite consistently with his view that justice and injustice are mere names or appearances and do not represent realities, bids goodbye to justice, effects an entire change of front, becomes the champion of injustice and is driven to reveal himself in his true colours as the advocate of pure undisguised self-interest. After all, he says in effect, justice and injustice are mere names. It is no use haggling about them; one thing is quite certain: self-interest is the universal motive at any rate of the rulers. Accordingly here comes into prominence the question of the *advantage* of justice or injustice, and inevitably so. As the distinction between them is merely nominal, the real question has to do with their utility or consequences, and amounts to this, 'What are the best consequences of action, or what actions are to be done, in order to get the best results?' In short, since the question is what they are good for, the question of good, the fundamental ethical question, comes to the front.

Thrasymachus now returns to the 'facts' of life, and raises another issue. Failing in his abstract argument, he comes back to the concrete. But he finds that he cannot stay there and is driven back to abstractions again, to ideal perfect injustice. It is all very well, he says, for Socrates to talk about ideal rulers being wholly concerned with the interest of the ruled. But his views will not apply to the real, actual rulers. In thus appealing to abstractions and analysing the conception of ruling *a priori*, Socrates is, he says, just like a child (*i.e.* with no experience of life) "that wants its nose wiping". Similarly when Socrates propounds later on his views at length on the true philosophic ruler, a similar objection is raised that his remarks will not fit actual philosophers. Thrasymachus thinks he can settle the matter out of hand by saying that "actual rulers think of nothing else by night or day than how they may secure their own advantage". So that in actual fact subjects are only blindly subservient to the self-interest of the rulers. They are poor simpletons who have dust thrown in their eyes. Justice—the characteristic of the subjects, *i.e.*, the obedience they yield—is always the good of another—the good, that is, of the ruler: it is never their own good. In-

justice, then, is the attitude of the rulers, in whom Thrasymachus no less than Socrates is specially interested, and consists in doing what promotes their own happiness. Justice is the attitude of the ruled and consists in doing what promotes their own unhappiness. Society consists of two broad classes, those who injure and those who are injured. Thrasymachus in fact pleads for the ideally best state of things which is formulated by Glaucon in Book II. but declared impracticable. Thus the argument works round again to the question of social obligation and the relation between the individual and the state. Thrasymachus throughout assumes that the criterion is the consequences in terms of material advantage. He also takes his stand on the extreme case—the case of the tyrant. It must be admitted, he says, that the most unjust man, the tyrant, always gets what is most profitable for himself. He is clearly right in staking his case on the extreme instance, as the sequel (Book II.) shows, and Socrates later on attacks him on his own ground and proves that the tyrant does nothing of the kind (Book IX.). "When people abuse injustice," says Thrasymachus, "they do so because they are afraid not of committing it, but of suffering it". He is thus back on his old ground that justice is the interest of the stronger, but he has now added to it the supplement that "injustice is a thing profitable to oneself," and accordingly all moral precepts are sheer hypocrisy. The issue is now brought clearly to the front, "Which is the more profitable, the just life or the unjust?"

Socrates points out that Thrasymachus has been playing contrary to the rules of the game by forsaking the meaning of shepherd or ruler which he had previously admitted. However, he is quite content to confront his slippery opponent on the new ground, and shows that rulers do not rule willingly, otherwise they would not take wages, and that the heaviest penalty of all is to be ruled by men who cannot rule. If a city were composed of good men only, it would be an object of competition to avoid the office of ruler, and then it would be clearly evident that the ruler looks only to the interest of the ruled and is not on the look out for his own advantage. However, he does not dwell on this point, as the state of the argument is not ripe for it. He promises to resume the inquiry hereafter, and his promise is fulfilled in Book VII., page 521, where he shows that states must be ruled by the best men, just as a man must be ruled by the best part of himself. Surely there could not be a clearer indication of the essential connexion of Book I. with the rest of the *Republic*.

The argument is then resumed. Thrasymachus holds that the life of the unjust man is the best. Polemarchus that the just life is the best. The only way of settling the question must be to count and measure the advantages and disadvantages on both sides. But to do this it is necessary to look at justice and injustice in their perfection—in their pure form or idea—disentangled from extraneous circumstances. Here then we have reached one of the central ideas of the *Republic*, the theme of which is ideal justice in its nature, power and effects. It is a clear intimation of the fact that moral philosophy does not belong to the empirical sciences. It aims at answering the question what ought to be, and this can never be settled by merely appealing to what is. Clearly you cannot properly compare justice and injustice unless you consider them quite alone by themselves, and their consequences quite alone by themselves, leaving out of account all the irrelevant circumstances, with which they may be accidentally associated. It is all very well to say that Books V.-VII. "deal with subjects in which we know that Socrates had no interest";[1] that "the real Socrates could not define justice";[2] or that "Socrates did not teach Plato's doctrines of forms";[3] or that in Books V.-VII. "Socrates teaches elaborate doctrines which we know that the real Socrates never held";[4] or that in "Books II.-IV. Socrates carries on the argument in quite a different way from that in Book I.".[5] But it seems to be clear from the above exposition of the argument that Book I. is already looking forward, and is demonstrating step by step that the issue whether "justice is better than injustice or not," can only be decided by getting a true definition of both, *i. e.* by ascertaining the essence, reality or idea of both, by determining the meaning of reality, and finally by an appeal to the idea of good, which is clearly involved in the comparative "better".

But to resume the thread of the argument. An *impasse* has been reached. One side says justice is more profitable, the other that injustice is so. A third party—a jury—is needed to decide which possesses most advantages. If neither gives way, authority must decide, but who is to decide the title of the authority? The judgment of an authority which is not acknowledged by both sides in the dispute, is plainly valueless for producing conviction. This method is therefore put on one side and the old method of finding some common ground, and thus basing their conclusions on the reason com-

[1] Lindsay, Introd. to Trans. of *Republic*, p. xii. [2] *Ibid.*, p. xv.
[3] *Ibid.*, p. xxviii. [4] *Ibid.*, p. x. [5] *Ibid.*, p. ix.

mon to both, is adopted. Otherwise there is no escape from opposed individual dogmatisms.

There are two possible alternatives. Either justice must be a virtue or a vice, or injustice must be so. Thrasymachus takes up the position that injustice is a virtue, and thereby sets it up as an ideal to be admired, as " beautiful and strong ". This truly, as Socrates points out, is " a more stubborn position ". That surely means that this is the central issue, and that it has now been clearly stated. It is a question what is really admirable and good. Socrates first proves that injustice is not a virtue and wisdom, *i.e.* is not beautiful, and drives Thrasymachus to his last ditch. The latter had maintained that injustice was stronger than justice—that the best city, *i.e.* the most completely unjust city, is the most successful tyrant and enslaver of others, and that one city becomes the mistress of another without the aid of justice. Socrates shows that any band of people—even robbers—cannot succeed if they act unjustly against one another ; for injustice prevents joint and therefore strong action ; and similarly injustice in the soul completely nullifies the action of one man. Thus he anticipates his theory that justice is the cement or bond of society, the principle which prevents it falling to pieces, and makes it strong, and his other theory, that what applies to the state applies also to the individual, that the form of justice is the same in the ' large letters ' and in the small. If therefore injustice renders action impossible, it is clear that the just must live a better and happier life than the unjust. And he reinforces his argument from the point of view of function, showing that justice is the virtue of the soul, and that the just soul must therefore live well, be happy and blessed.

Socrates now reviews the argument of the book. The ground has been cleared, the chief questions have been raised, the issue has been made manifest. But the result is disappointing. All the theories which have come to grief have failed because they did not furnish a correct idea of justice and involved an inadequate analysis. Socrates has overthrown them by critical arguments, but they can only be satisfactorily overthrown by putting a correct theory in their place. Though this has been implied, it has not yet been adequately presented. All the false theories failed because they made bad starts. They all led to admissions with which they were shown to be inconsistent. The remedy therefore is to start with something with which no other admission can conflict. This is applied in Book II. and following books, and this is why the method there appears to the superficial critic to be a change from the dramatic method of cross-examina-

tion to the method of dogmatic exposition. But the logical or argumentative principle is precisely the same in both, the method of proceeding from admissions. In the first stage, the admissions lead to contradictions: in the next they do not. What is the cause? Simply because it all depends on what ἀρχὴ or principle you start with—in plain English, how you begin. If you do not begin right, you cannot end right. For the end is involved in the beginning and the beginning necessarily implies the end. If you start with an inadequate theory, it is bound to land you in difficulties. If, on the other hand, you start with a truth which everybody recognises and must recognise, there is hope of reaching the truth in the end, if only you abide by your first principles. This is what Socrates does in his sketch of the state. He appears to be dogmatic, only because his conclusions follow necessarily from the premises.

Meanwhile all that has been done is to taste one dish after another: (1) what is the nature of justice? (2) is justice more profitable than injustice? (3) is it vice and ignorance or virtue and wisdom? Socrates has proved in a negative way; (1) that justice is virtue and wisdom; (2) that it is more profitable than injustice. But his conclusions are valueless, because they depend on the answer to the first question, which has not been answered. At present justice is unknown. What is the good of saying that something, you know not what, is virtue or wisdom or profitable or unprofitable? What is the use of applying predicates to an unknown subject? If you do not know what a thing is, you have no proper right to say anything about it. If you do know what it is, you can define it and state its qualities.

The effect then of Book I. of the *Republic* is to raise the problem, to state the chief questions and to discuss them in a preliminary way. But it shows also that such treatment is not final, however much it implies sound positive ideas. To deal with the matter decisively it is necessary to state the problem afresh with greater fullness, clearness and emphasis, and then to make the right start, by finding an ἀρχὴ which will lead to no contradictions and which will carry you along as irresistibly as a wind drives a ship on its course.

V.—DISCUSSIONS.

THE UNIVERSAL AND THE *A FORTIORI*.[1]

Mr. Pickard-Cambridge formulates the following arguments:—

(1) A is greater than B, B is greater than C, ∴ A is greater than C;
(2) A is next to B, B is next to C, ∴ A is next to C;
(3) A cheats B, B cheats C, ∴ A cheats C;

and he asks what the principle is that discriminates (1) that is valid from (2) and (3) which are invalid. We see directly, he says, that relations of the kind specified between A and B, and between B and C necessarily involve, in the case of (1) a corresponding relation between A and C, and that in the cases of (2) and (3) they do not. 'This apparently does not satisfy Dr. Mercier.' I beg Mr. Pickard-Cambridge's pardon: it does satisfy me. It satisfies me completely and entirely. It is, in fact, my case. It is what I am contending for. We see *directly* that the conclusion in (1) is valid, and that those in (2) and (3) are not. We see it directly, without any reference to a universal outside of the argument. We see it directly, not indirectly through a universal. That is my point. That is the point at issue. I hold, as Mr. Pickard-Cambridge says, that the conclusion can be reached, and is in fact reached, from the postulate alone, that is, from the premisses as they are stated, without praying in aid a *principium* from outside.

The criticism raises, says my cross-examiner, two points: (*a*) that the major or universal premiss (the *principium*) is not derived from the postulate (A is greater than B, and B than C); and (*b*) that it is unnecessary to the inference.

On the first point, he says, it is perhaps enough to say that the major premiss of a syllogism is not usually 'warranted' by the minor, or derived from it. I agree that the major of a syllogism is

[1] *Note by the Editor of* Mind.—Dr. Mercier originally included in the above article an extended reply to Mr. Shelton's charge of plagiarism and other personal accusations. I have requested him to omit this reply on the ground that a continuance of such personalities in the pages of Mind is intolerable. In fairness to Dr. Mercier it is necessary to add that in the opinion of the Editor, Mr. Shelton's charge of plagiarism is utterly baseless and that his abusive language was quite unjustifiable and in every way regrettable. The Editor apologises to readers of Mind and to Dr. Mercier for having allowed such language to appear at all.

not derived from the minor, but I do not agree that this is enough to say. I have a good deal more to say about it. In the first place, I have to say that the *a fortiori* is not a syllogism. In my opinion the major and minor premisses of a syllogism are both of them postulated, and the major is not derived from the minor, but is part of the original postulate. But the *a fortiori*, as it stands in (1), is not a syllogism; and when we try to convert it into a pseudo-syllogism by concocting a universal to fit it, as Mr. Shelton tries to do, then, I say, so far from deriving our conclusion from the universal, we derive our universal from the conclusion, or rather, from the argument as a whole, after it is completed.

If A is greater than B, and B is greater than C, then we conclude, *directly* as Mr. Pickard-Cambridge asserts, that A is greater than C. But what do we mean by A, B, and C? We may, if we please, use A, B, and C as proper names of individual things, and then, say the logicians, we require a universal outside and beyond the argument to validate and legitimatise our conclusion. But it has escaped their notice that A, B, and C may not be proper names of individual magnitudes. They may be symbols standing for any magnitudes whatever, and in that case the *a fortiori*, as stated in (1), is already a comprehensive universal, and no universal constructed on the same lines can be more comprehensive or more universal. For if A, B, and C stand for any magnitudes, they stand for all magnitudes, for 'any' and 'every' alike mean all. 'Any' means one taken at random as a sample of all that for the purpose in hand are alike. 'Every' means all taken one by one. The difficulty of concocting a universal to include this example of the *a fortiori* is now explained. It is an endeavour to formulate a universal more comprehensive than an equivalent universal expressed in other terms, that is to say, virtually more comprehensive than itself. The concocted universal of Jevons, Mr. Sidgwick and Mr. Shelton means exactly the same as the *a fortiori* in (1), neither more nor less. Now I aver that whether we take the A, B, and C of this argument to be proper names of individual things, or whether we take them to be symbols representing any magnitudes whatever, in other words, whether we take the propositions as particular or as universal, does not matter a straw to the validity of the argument, or to our ability to arrive at the conclusion *directly* from the premisses. If the conclusion is valid in the universal, it is valid in the particular, and if it is valid in the particular it is valid in the universal; and it does not matter in which order we take them. Moreover, if we need a universal to validate the particular (which is, or may be, already a universal) then we need a higher and more comprehensive universal to validate the J.-S.-S. universal; and a still higher and more comprehensive to validate that, and so on *ad infinitum*.

Nor must it be forgotten, though it usually is forgotten, that the argument: If A is greater than B, and B is greater than C, then A

is, greater than C, is not the only instance of the *a fortiori*. Far from it—there are many others. Here is one:—

(4) If A is less than B,
and B is less than C;
then, *a fortiori*, A is less than C.

And here is another:—

(5) If I answer an antagonist who is confused and discourteous,
Then, *a fortiori*, I shall answer one who is clear and courteous.

These are arguments *a fortiori* as much as (1), but the universal so painfully and laboriously concocted for (1) will not fit these. Now, either the mental process employed in reaching the conclusion is different with every specimen of the *a fortiori*, or it is the same in all. I do not think that any one who interrogates his own mind, and watches the march of the reasoning therein, will contend that it is different. Clearly, all these arguments are on the same model. Are they then governed by the same universal? Logically they should be. If they are, what is this universal? and who will formulate it? It is a sum in proportion. If it takes three logicians to concoct a universal to cover (1), how many will it take to concoct a universal to cover (1), (4), and (5)? Nine, or the square of nine? I suggest that the last figure is the nearer the mark. If it is said that though the principle, that of subsumption under a universal, is the same in every case, yet the universal need not be the same in every case, then I ask on what ground it is asserted that the principle underlying the *a fortiori* is subsumption under a universal. To this question I can get no answer. As far as I know there is no answer except that Aristotle said so, and this does not satisfy me. If there is any other answer, perhaps Mr. Pickard-Cambridge can succeed where Mr. Shelton has failed, and can give that answer. Some principle there must be that validates every instance of the *a fortiori*. If it is, as the logicians say it is, subsumption under a universal, let us have that universal. If it is not subsumption under a universal, then it must be some other principle. I maintain that it is another principle: that it is the principle of substituting one term for another which implies it. As the explanation of this principle given in my *New Logic* is not clear to Mr. Pickard-Cambridge, I will try to explain it more clearly:—

If A—is greater than—B,
and B—is greater than—C;
then, *a fortiori*, A—is greater than—C.

If the conclusion is compared with the first premiss, it is seen at once that the conclusion differs in nothing but in the substitution of C for B. Whatever the process by which the result is reached, it cannot be denied that this is the result. The result is the substitution of C for B in the first premiss, or of A for B in the second. Of this there cannot be a shadow of doubt. The

whole question at issue is how this substitution is effected. The contention of the old Logic is—I am putting it in my own way, and not as it is taught in the books—that the substitution is effected by means of an analogy, using the term analogy in its strict and proper sense of a comparison of relations. They say that we have already in our minds a universal, in which the terms, instead of being singular, individual, and particular, as they may be in the instance before us, are plural, general, and universal; that we can recognise the validity of the argument when the terms are plural and universal, though we cannot recognise it when they are singular and particular; and that, the relations being the same, we argue by analogy that if it is true in the universal it must be true in the particular also. (The former contention of the old Logic was that the universal term of the universal proposition includes the very particular about which we are arguing, but I do not think that this position, evidently false as it is, is held now.) All these contentions I deny. I deny that we have the universal in our minds, and in proof of my denial I point to the fact that for ages logicians have been trying to discover and formulate this universal, and that no logician has succeeded to the satisfaction of any other logician. Moreover, I take the latest effort, the J.-S.-S. formula, and I am able to show that it means exactly the same as the *a fortiori* which it is put forward to validate. *Secundo*, I deny that it is any easier to recognise the truth or the validity of the *a fortiori* when stated generally than when stated particularly. We see its validity just as soon, just as plainly, just as directly, when we take the terms A, B, and C to be proper names of individual things as when we take them to be symbols of any magnitudes we please. This being so, it follows of course that I deny that the argument is an analogy, and I deny this on another ground also. Analogy is the comparison of relations, and 'the nature of an analogy is not altered, and its truth is not altered, by altering the nature of its terms, as long as the proportion (or relation) between them is maintained' (*New Logic*, p. 346). For this reason I deny that the truth of the *a fortiori* is any more evident in the universal than in the particular, and I invite any candid person to read the J.-S.-S. monstrosity (MIND, 93, p. 77) and say whether its truth is any more manifest than that of the *a fortiori* as stated in (1), taking the terms as proper names.

So far from this being the course of the argument, I aver that it is the very reverse. We see the validity of the *a fortiori* as soon as it is stated, and not until we have seen its validity in the individual case before us do we recognise by analogy that it must be true in any and every case in which the relations are similar. The universal is not anterior but posterior to the argument. No one ever thought of finding a general formula to include the *a fortiori* until he had seen an individual case of the *a fortiori*: and when we try to formulate a universal to fit that or any other

argument, we do so with an eye constantly on the individual instance, and construct our universal to fit the particular. I do not say this is so in the ordinary syllogism, in which a universal is given, but I say that when we are fishing for a universal, as we have to fish to find one for the *a fortiori*, we have the particular case first in our mind, and from this case, and in adaptation to it, we construct our universal. Is it plausible, is it reasonable, to contend that we reach our conclusion through a universal that we never formulate until after the conclusion is reached, that we cannot formulate without difficulty, and that, when formulated, is only fit to be laughed at? So hard put to it are those that uphold this view, that Mr. Shelton now says that we have the universal unconsciously in our minds (MIND, 96, p. 527). This is delicious. An unconscious universal in the mind may take rank with an immaterial dinner in the stomach, an unresisting support beneath the feet, or an impalpable weight in the hand. It is one of the garments that make up the Emperor's clothes.

It is Mr. Pickard-Cambridge's second query that he says is the crux. He quotes the rule I have laid down, that any term in a proposition may be replaced by any other term that *for the purpose of the argument* is implied in it, and my comment that the words italicised make all the difference, and he goes on to say that (presumably) the difference between the valid argument (1) and the invalid arguments (2) and (3) is that in the former the third term may for the purpose of the argument be substituted for the second, while in the latter it may not. So far I agree. But then he goes on to say that this difference is made by me to depend on some difference in the purpose of the argument in the two cases. Naturally therefore we ask 'What is the difference in the "purposes" of the two arguments?' This is the point at which the misunderstanding occurs. The passage that Mr. Pickard-Cambridge quotes should be read with its context, which shows that, in the case I was then considering, attention to the purpose of the argument would save us from a particular fallacy or invalidity; but does not show that it will save us from every fallacy or invalidity. It is true that in every case we must pay regard to the purpose of our arguments in order to avoid invalidity, but it is not true, and I have never said, that attention to the purpose of the argument will of itself ensure validity, or enable us to avoid every source of invalidity.

In the argument 'If A cheats B, and B cheats C, it is equally clear that C is not, for the purpose of the argument, implied in B'. Thus Mr. Pickard-Cambridge quotes me; and he goes on to say that it is indeed clear that the inference 'A cheats C' does not follow; but the problem is to know how that *non sequitur* is dependent on any difference in the purpose of the argument. He says I do not reveal this. Here again there is a misunderstanding, and I am glad of the opportunity of clearing it up. Again we

must take the passage with its context. I was insisting that the argument A : B, and B : C does not always justify the conclusion A : C, and used the relation of cheating, among others, to illustrate the point. The argument is not valid, I asserted, unless C is, for the purpose of the argument, equivalent to B or included or implied in B; and if cheating or sundry others be taken as the common relation, then this condition is not fulfilled. I could, of course, have said that if A cheats B, and B cheats C, then C is not for the purpose of *any* argument implied, etc., in B; but in fact I was dealing solely with the argument A : B, B : C, ∴ A : C, and this is *the* argument to which I was referring. The *non sequitur* does not depend on any difference between the purpose of the argument about cheating and the purpose of the *a fortiori*, for if we endeavour to get from the cheating premisses a relation between A and C, our purpose is, *mutatis mutandis*, the same as the purpose of the *a fortiori*. It is to obtain a relation between A and C. The *non sequitur* nevertheless does depend on the purpose of the argument, for it results from taking for the purpose of the argument premisses that are not adapted to that purpose, or, to put it otherwise, applying the premisses to a purpose that they will not serve. The importance of the purpose of the argument is not only internal to the argument, in preventing such treatment of the premisses as is inconsistent with the purpose, but also is external or preliminary to the argument, in guiding us to the choice of premisses suitable to our purpose, or, in logical exercises, finding a purpose that the premisses will suit.

'Let us suppose,' says Mr. Pickard-Cambridge, 'that the question "valid or invalid" *does* depend on the purpose of the argument, and not on some essential difference between the kinds of relation referred to.' But he is not entitled, from anything I have said, to suppose any such thing until appropriate premisses are stated for some purpose. *The validity or invalidity of an argument depends* (inter alia) *upon the adaptation of the relation in the premisses to the purpose of the argument.* That is my point. That is my position. That is one of the most important matters in which the *New Logic* differs from the old. The old Logic never mentions the purpose of an argument, and never recognises that an argument has any purpose except to be crammed into a syllogism. And the old Logic assumes and declares that in argument or reasoning there is only one relation that can possibly be used—the relation of subsumption. The *New Logic* asserts not only that every argument must have a purpose, and that its purpose is vital to its validity, but also that any relation whatever, even subsumption, can enter into argument or reasoning as freely as any other, provided always that the relation is adapted to the purpose of the argument, or, if the relation is given, that a purpose adapted to it can be found.

The argument (3) about cheating illustrates both assertions. If

A cheats B, and B cheats C, then from these premisses we cannot conclude that A cheats C, for to this purpose the premisses are not adapted. They give no warrant for substituting C for B in the first premiss, or A for B in the second, and therefore they reveal no relation between A and C. But it would be a very gross mistake to suppose that these premisses yield no conclusion, and an equally gross mistake to suppose that there are no premisses from which we can draw the conclusion that A cheats C. If A cheats B, and B cheats C, nothing is easier than to find a purpose that will fit these premisses, such that a valid conclusion may be drawn from them by paying regard to this purpose. Let the purpose be to find a similarity between A and B: then these premisses will justify us in concluding that both are cheats. Let the purpose be to find a similarity in the fortunes of B and C: then the premisses will allow us to conclude that both are cheated. Or, if our purpose is to discover the maximum of honest men among them, we can conclude from the same premisses that it is not more than one. But these are mere academical exercises. Their artificiality is stamped upon them. In real life we do not take up arguments and then seek a purpose that will fit them. We start with a purpose, and seek premisses that will serve that purpose. There is no argument without a purpose, except in Logic; and except in Logic, the purpose dominates the argument.

If we want to discover a relation of cheating between A and C, the premisses in (3) will not serve our purpose, but it is not difficult to discover premisses that will. The first Canon of Inference is that we may postulate what we please (saving self-contradictions) and we may, therefore, state the following premisses:—

> If A—obtains money by false pretences from—C,
> and Obtaining money by false pretences—is—cheating;
> then A—cheats—C.

In this case we substitute, not an implied term for one that implies it, but a ratio for one to which it is equivalent—to which it is given equivalent by the second premiss. If we compare the conclusion with the first premiss, it is incontestable that they do in fact differ solely in the substitution of one ratio for another. If we look at the second premiss it is incontestable that it does in fact declare the equivalence of the two ratios. If we consult our common sense, it will tell us that any term or ratio in an argument may be replaced by one that is, for the purpose of the argument, equivalent; and that is what is done in this argument. Where is the necessity for a universal?

I should therefore disagree on more than one ground with Mr. Pickard-Cambridge when he says 'the hinge of a valid argument is not its purpose but a nexus of relations which is necessary—therefore universal'. I say that the hinge of a valid argument is neither the purpose nor the relation, but the adaptation of the one to the other. An argument may contain a nexus of relations,

or it may contain but one, but it need not contain a universal. In nearly every case in which a universal is declared to exist in an argument, it is not in the argument, but is faked up, like the J.-S.-S. monstrosity, outside of the argument. It is never in the mind until after the argument is stated, the conclusion reached, and the fancied necessity of a universal remembered. Then it is easy to universalise one of the premisses, or, as in the J.-S.-S. monstrosity, the whole of the argument, and to make believe that it is in the argument, or is necessary to the argument. Then you have your universal. It is there, but it is not in the argument, and is not extracted out of the argument. It is faked up and added to the argument as an unnecessary and disfiguring excrescence.

As soon as it is recognised that any relation, even that of cheating, can enter into argument, not only does the necessity for a universal disappear, but also its practicability is in most cases abolished; for a universal, *quâ* universal, can enter into only one relation, that of subsumption. It is curious that logicians should still insist upon the necessity of a universal in face of the admission into logic of arguments about individuals. In Scholastic days, when Logic was comparatively logical, the individual was shut out of logic, for an individual that, *quâ* individual, is also universal, is a contradiction in terms. An individual and a universal are as antithetic as any antithesis can be, and if a universal is necessary in every argument, then there cannot possibly be any argument about individuals alone. However, in fact, arguments about individuals are constantly framed, constantly used, and constantly acted on; and at long length they have been admitted into logic—in a wooden horse.

If Wren designed St. Paul's
and St. Paul's is a cathedral church;
then Wren designed a cathedral church.

I ask any person with a reasonably open mind, which is the more likely, which is the more reasonable view to take,—That since we are told by the second premiss that a cathedral church is, for the purpose of the argument, equivalent to St. Paul's, therefore it may be substituted for St. Paul's in the first premiss, or that the conclusion is reached through some such universal as Every one who designs a church which is also a cathedral church designs a cathedral church? Besides, supposing the impossible, supposing this universal does enter into the argument, and is our warrant for the conclusion, what is our warrant for the truth or validity of the universal? Is it not that we see at once the equivalence of the terms, and recognise that one equivalent term may be substituted for another? And if we may do this in the universal, why may we not do it in the particular argument itself? why take two bites at a cherry—a cherry? a green pea! Yet this is what logicians do suppose, *mutatis mutandis*, with the *a fortiori*. In both the *a fortiori* and the argument about St.

Paul's is it not plain and manifest beyond all question and doubt that the universal is never used in the argument, but is faked up after the conclusion is reached? Can any one go through either argument and then assert that he had the universal in his mind while he was doing so? Is it not clear that the universal is never in the mind until the argument is complete, and then it occurs to the reasoner that, according to the rule he has been taught, there ought o be a universal knocking about somewhere, and that he had better find it or fake it? He cannot find it, and so he has to fake it, with what difficulty Mr. Shelton's efforts show. Will the most hide-bound logician assert seriously that there is a universal in the St. Paul's argument? And if there is none in that, what is the necessity for one in the *a fortiori?* How is it that there is all this pother and difficulty in framing the universal if it is in the mind all the time, and you cannot reach your conclusion without it? I put to Mr. Pickard-Cambridge the same question to which I can get no answer from Mr. Shelton. They say the argument *must* contain a universal, but why must it?

There is little to rejoin to in Mr. Shelton's reply.

I said that his assertion that I throw induction and deduction into a hotch-potch must be understood in a sense exactly the opposite of that in which the words are commonly used. Mr. Shelton now says what he meant was that I draw six differences between induction and deduction. On his own showing, therefore, my statement was correct.

He produced a universal that he said is—or is not, he is not clear which—the universal in the *a fortiori*. I answered that he had not found the universal. He now rejoins that he *has* found it, —and produces another one!

I asked him what reason he had for saying that every argument must contain a universal. He does not answer. The conclusive presumption is that he cannot.

He says the inference A is next to B, B is next to C, ∴ A is next but one to C, is certainly wrong. It is certainly right in the ordinary and natural meaning of the words, that there is not more than one thing between A and C. He must be pretty hard put to it when he has to drag in the space of Reimann and the space of Lobatschewsky.

I said I doubted if Mr. Shelton knew, when he called my logic formal, what he meant by formal. He calls it formal again, but he does not explain what he means. The conclusive presumption is that he cannot.

I asked him how I had confused two spheres. He does not answer. The conclusive presumption is that he cannot.

He said that while professing to carry out the explication of what is implied in propositions, I had not really done so. I challenged him to find one implication that I had overlooked; and to encourage him I told him that since the publication of my *New*

Logic I had myself discovered some that are not described therein. He neither takes up the challenge nor apologises.

CHAS. A. MERCIER.

POSTSCRIPT.

One or two minor matters I relegate to a postscript.

For reasons given in my *New Logic*, I think that every deductive argument should be stated for what it is—a hypothetical argument. In my opinion we have no right to assert, and it is misleading, even if not actually untrue, to assert, that A is greater than B, or next to B, or that A cheats B, unless we have in our mind some specific A and B, refer to them as actually existing things or persons, and have reason to believe that what we say of them is true. If our argument is hypothetical, as in the cases in the text it is, then I think it should be stated hypothetically, and should run—*If* A is greater than B, *If* A is next to B, and so on. My reasons are many, but I will give only two, which I think are enough. In the first place, if the rule is adhered to it is impossible to mistake a deductive argument for an inductive argument, and the difference between them is made striking and manifest. In the second place, by stating the syllogism hypothetically we clear up completely the much-debated nature of the universal therein, and we solve with ease the excruciating problem of 'the *petitio principii* inherent in the syllogism'.

From several expressions in his paper it is evident that Mr. Pickard-Cambridge does not expect me to answer his questions, for he warns me repeatedly of the consequences of not doing so. I am afraid he will be disappointed to find that I do answer them, but I feel sure that he will not allow his disappointment to prejudice him in examining my answers. I can assure him that, accustomed as I am to be condemned without being read, or after being read unintelligently, it is a pleasure to meet a critic who is both honest and acute.

In my answer to Mr. Mayo (MIND, 95, p. 396) I said that for the last thirty years logicians have not claimed any utility for Logic. I might have extended the period considerably. Two hundred and fifty years ago the logicians of Port Royal wrote in the following terms, as translated by Mr. Ozell, just 200 years ago: 'This part [the syllogism] that we have now to handle, which comprehends the Rules of Reasoning, is esteemed the most important part of Logic, and is what is generally discussed with most care: But there is cause to doubt whether it is so useful as is imagined. . . . However, even though these Rules be considered only as speculative Truths, they will at least serve as an exercise to the Mind: And besides, it cannot be denied that they are of some use upon certain Occasions, and to certain

Persons, who, being of a lively penetrating Genius, do sometimes suffer themselves to be carried away by false Consequences, only for want of Attention; which may in some measure be remedied, by the reflection they will make upon these Rules. Be it as it will, you have heard what is generally alleged in their Favour, and even something more.'

C. A. M.

CAUSALITY AND IMPLICATION.

I SHOULD like to make some observations upon Dr. McTaggart's striking lecture on Causality. The greater part of what he says possesses, as one would expect from him, an almost convincing lucidity and vraisemblance. Nevertheless I believe that the truth may be more nearly approached by considering the question from a somewhat different point of view.

The main point which I desire to elucidate is whether and in what sense Causality is explanation, and whether and in what sense Causality is reciprocal.

It is important that Causality is regarded *ab initio* as a relation of Implication. I do not propose here to pursue the questions raised by the addition "between terms which exist" (p. 326). In ordinary temporal conditions the terms do not both exist at once. The definition may be construed to cover their case, but difficulties remain.

The account of Implication (p. 331) seems to me not to be quite sufficient, and as regards that which, as based on experience, is contrasted with Implication *a priori*, not to be correct. Implication, I should have said, invariably means a character attaching to a definite complex of terms and relations, such that some element within it can be distinctly seen, by being what it is, to make inevitable the presence of a certain other element in a certain relation to it. The insight is strictly limited to the complex with reference to which it is developed, and an insight based on one complex may conflict in substance with that based on another, although both are *a pricri*. *A priori* implication is, therefore, for me, a matter of degree, and none is absolute except that, if any, which deals with the complex of experience as a whole.

Whether all implication involves a character of which it can be seen not only that if it is so, a certain other is so, but that if it is not so the other is not so, is essentially the question of reciprocity of characteristics, and I will return to it under that head.

The account of Implication as based on experience, I said, appeared to me not to be correct. If, as I hold, Implication *a priori* is a matter of degree, it will be less surprising to find it continuous in type and ground with that which has an empirical presentation. I do not think that even the latter depends "on the terms being always found together," or "has no meaning unless they occur more than once" (p. 331). The type of Implication appears to me to be the same when the basis is what Dr. McTaggart

would call empirical, and when it is what he would call *a priori*. In the former case as in the latter it seems to me to consist in the vision of a complex, within which certain elements are seen, by being what they are, to make [1] inevitable certain other elements, and, as I shall try to point out below, supposing they were not what they are, to exclude those other elements.

I will take one of Dr. McTaggart's favourite examples to illustrate my meaning, in anticipation of my argument. "Beheading implies death," because, I gather Dr. McTaggart would say, the former has so often been found to precede the latter (p. 337). That is not how the matter looks to me. You could, I should say, arrive at no such implication, unless you had before you a certain world or complex, in this case the world of living beings, within which you rightly or wrongly take for granted a set of elements and connexions. An event of a certain kind within this world, you see, I should say, selectively, to be in a relation of implication with another event within the same world, from the nature of the universal characteristics presented by the two events, considering the complex to be what you take for granted that it is. The type and machinery, so to speak, of this complication, is in my view exactly the same as that by which you see that two straight lines cannot enclose a space. The circumstances which you take for granted, are of course much more precarious in the former case; and may be more easily overthrown by experience (p. 337); [2] but the insight founded upon them is quite of the same kind. That the characteristics (p. 332) are universals is important for me also; but not because they can repeat themselves; rather because they are centres in which a number of conditions meet, which, given the complex, determine their nature.

1. Now I will say something on the question whether "the discovery of a causal relation between two events explains those events, or at any rate explains the event taken as the effect" (p. 335).

It is obvious that no ultimate fact or law, *a priori* or other, can be explained in the sense of being referred to anything beyond it. Least of all can the universal (that which explains everything)

[1] No expression which I use is intended to convey the activity of causes. The assimilation of cause, as understood in science, to volition, has always appeared to me a most infelicitous anthropomorphism.

[2] *Cf.* p. 337. The general statements on pp. 336-337 seem to me, unlike Dr. McTaggart's assertions as a rule, repugnant to common sense; that is, if we understand the words "apart from experience" to mean apart from special experience of certain conjunctions. And they must mean this, for apart from *all* experience, we could make no judgment and have nothing in our minds. The statements I refer to are such as this: "Apart from experience we have no more reason to suppose that cutting off my head would kill me than that it would blow up the Taj Mahal". If "apart from experience" here means "apart from specific experience of decapitating high organisms" the statement strikes me as opposed to common sense.

be explained in this sense. But Dr. McTaggart's point is, that an ultimate causal law merely "asserts an ultimate connexion of two things, that is, a connexion of which we know that it does exist, but do not know why it exists" (p. 335). He seems to draw a distinction in this respect between a causal law and an *a priori* implication such as that two straight lines cannot enclose a space. The latter (p. 336) is self-evident, *i.e.*, I suppose at least explains itself; the former explains neither itself nor any connexion founded upon it, except so far as reference to a general rule is an explanation.

Here are two points. I take the second first.

How much of an explanation is a reference to a general rule? It is certainly something of an explanation. Before the general rule is discovered, we are absolutely at sea. When it is discovered, we exclude a whole chaos of possibilities, and grasp the beginning of an order. Say the wall socket of an electric radiator heats when the current is turned on. If one knows no cause, one is lost in disagreeable conjecture. The house, one thinks, may be burned down at any moment. The electrician comes, points out the cause, and shows one how to remove it. All usage would say he has "explained" the heating (*cf.* the excellent passage in Bradley's *Principles of Logic*, p. 491). He has put it in relation to an order.

The second point grows out of this. We saw that even a causal law is not directly or indirectly (p. 336) a record of experienced conjunctions, but a connexion seen within a defined complex. Therefore, accepting the complex, it does explain itself, after the the type of the *a priori* self-evidence referred to above. I note the recognition (p. 340) that causal laws do not always take the shape of relations of two things; and as we are now speaking of the appropriateness of their ultimate form for explanatory value, the suggestion that propositions about conjunctions of two things are always involved in them is here irrelevant, and it is itself open to our general criticism.

What shape would the ultimate law possess to which the heating of the wall-socket would be referred? Obviously, it would be the whole complex of fact, set in order by theory, which constitutes the realm of our experience of electricity. Looking at this, we should see the implication. The law, in this form, would explain both itself and the effect. That is to say, it would enable both to be thought in relation to a whole of experience. But, in principle, no explanation can do more. The alleged distinction of type between causal and *a priori* laws has no existence. Both are selective visions within complexes taken for granted.

That cause and effect as such should be identical with each other (p. 336), I agree, is absurd. But is not this a misrepresentation of the view that they merge into one another within the same complex, and that the distinction between them is an arbitrary line? At any rate, I take it, this is the correct view. If cause and effect are names for terms selected within a complex, it must be so.

Surely, in the case of a living body being beheaded, no one knows at what precise moment death sets in. We know that a process begins with a blow and goes on into death; but we cannot say, "Up to here it is all cause, and after, it is all effect". The process is the reality. Cause and effect are shifting distinctions on its surface. The point is that cause and effect are not, as the view I am remarking upon fundamentally takes them to be, isolable terms or events, but are parts selected in a continuous connexion, within a complex taken for granted. The complex, like every ordered whole of experience, is *pro tanto* an explanation of itself and of all its details.

If then to explain is to furnish the means of thinking a detail in harmony with an order of experience, I submit that to discover a causal relation is to explain, and that there is no difference of principle in this respect between insights which are called *a priori* and insights which are supposed to rest on an empirical basis. I must not however diverge into the whole question of the nature of the *a priori*, though I suspect that the root of our difference lies really there.

I now pass to the question whether Causal Implication is necessarily reciprocal.

2. Here again it is important from my point of view that the relation has been brought under the head of Implication. For I believe that all Implication is as such reciprocal, and that appearances to the contrary depend upon the presence of irrelevance (*cf. Appearance and Reality*, second edition, p. 362, footnote).

I will begin with a word upon this general presumption drawn from the very nature of Implication. If A coheres with or is linked to B, B, it would seem, must be linked to or cohere with A. It is not a question, we must remember, of two things, each of which is found sometimes by itself and sometimes with the other, like two friends. It is common ground that on one side the relation is universal; A is never found without B. That is to say, if we recall the view which I have suggested, Implication always means at least that selective vision apprehends A, within the assumed context, as possessing the character, the coupling or point of attachment, or as participating in the grouping of relations at or in which B must inevitably be found. "If A is present, B must be present."

Now if this is carefully noted, it seems very hard—I at least find it all but impossible—to conceive B, this identical B, a universal characteristic, as not possessing the corresponding feature, coupling or point of attachment, which carries with it the presence of A. How can an element, united to A without exception where A exists, cut itself loose as a whole (not with part of itself only) and go about independently? Now what addition do we need to the previous statement of our apprehension, in order to make this presumption a certainty? This, and this only. We formulated

it first in the words, "If A is, B is," which say that A implies B. If our insight extends to the contrary alternative, or negative instance, and we are able to say in addition: "If A is not, B is not," then we are assured that B implies A, that is, that the implication is reciprocal. For when it is true that "If A is not, B is not," then it is also true that "If B is, A is".

Throughout the whole region of insight and inference, it is exceedingly hard to conceive that you have a complete vision of a connexion when you see only its positive or central thread, and not the correlative negation which gives its precise limit (the same in principle with the confirmatory negative instance in induction). But if you see the latter, then your insight has apprehended a reciprocal implication.

"Concave implies convex." "Not concave implies not convex." "Convex implies concave." "Human goodness implies good will." Absence of human goodness implies absence of good will." "Good will implies human goodness." "Stoppage of the heart for good implies death." "Non-stoppage of the heart implies the absence of death." "Death implies stoppage of the heart for good." I take it we cannot say, "What are not three angles of a triangle are not equal to two right angles," but we can say, "What are not equal to three angles of a triangle are not equal to two right angles". That is clearly seen in the complex, and carries the reciprocal, "Two right angles are equal to what is equal to three angles of a triangle".

Without the correlative negative we have not the limits of *relevance*; and surely the whole of implication and inference is founded upon relevance. What is relevant I understand to be that which, in the complex taken for granted, is seen to affect the connexion between A and B. If this is not fully and accurately demarcated, our insight is defective. (I do not say that it ever can be demarcated with ideal precision.) If it is demarcated, the implication is reciprocal.

What, then, am I to say of the examples of non-reciprocal implication on which Dr. McTaggart relies? (pp. 333-334 and 341). They are such as "Red implies being coloured," "Beheading implies death". I reply that these propositions, strictly taken, are false. Red does not imply "coloured" without distinction; it excludes most cases of it absolutely, and a term cannot imply what it absolutely excludes. It contains, no doubt, something which implies coloured without distinction, but it also contains much that is irrelevant to the implication and contradicts it. In "Beheading implies death" this is still clearer. It is like saying, "Eating my dinner with a white tie on implies that I am nourished".

We see this strikingly in Dr. McTaggart's treatment of one of his own examples (pp. 333-334). The passage is very remarkable. It is one of his special points that there is no non-reciprocal deter-

mination of effect by cause, though I do not think he means that there is a reciprocal determination, but rather that it is variable; and he has to maintain this while contending that there *is* non-reciprocal determination between characteristics, *viz.* the universal qualities or relations in virtue of which events determine (imply) one another. The solution offered depends on the assertion that the determining characteristic may belong to "cause" or "effect" indifferently, and may even be removed from one of the same two events to the other by a change in the description. Here is the example. *Prima facie*, drinking alcohol is the cause of drunkenness and not *vice versa*. But the determining characteristic belongs here to the effect and not to the cause, for being drunk implies having drunk alcohol, and not *vice versa*. (The effect, in short, is here the antecedent and not the consequent in an ordinary hypothetical proposition.) But, the writer proceeds, if you describe the events more precisely, you reverse this relation. For if you specify the amount and conditions of the drinking, you can make the drinking alcohol "determine" (imply) the drunkenness, and not *vice versa*. But then, I add, you can return to the charge and further define the degree and kind of drunkenness, until the power of implication (of being antecedent in the ordinary sense) will return to the "effect". "If he is *so* drunk, he must have drunk so much." Clearly the continuation of this process (I am not responsible for its nature!) must lead to the two terms being so described that each implies the other. And the less precise description must surely be *false*. Dr. McTaggart does not seem to admit that this process could take place with every pair of terms in causal relation. But his very point is to show that "we cannot say that the one which would generally be called cause determines the other more than it is determined by the other" (p. 334). It seems unlikely that a relation whose incidence is so transferable should not be universal, and if so implication is reciprocal.

The first statement of what a law of universal causality would require (pp. 339-340), "Then in each case in which G occurs, a characteristic $H\alpha$ can be found, etc.," with a recurrence to it on the following page ("the $H\alpha$ which can be found for every recurrence of G") does not seem to me quite reconcilable with the detail of the law as explained afterwards. I shall not lay stress on this, except to say that it looks as if the more natural statement came first, and received modification in being drawn out. The fuller statement makes G as such related to different occurrences $H\alpha$, $H\beta$, $H\gamma$, according to the ordinary conception of the plurality of causes (p. 341).

Now surely to say that $H\alpha$ and $H\beta$ respectively imply G, without inserting any condition or distinction to adapt G to these different sources of implication, is ultimately the same error as to predicate A and B of a subject G without distinction in the latter, which I take to be the very formula of contradiction. Of course

it may be replied that this comparison does not hold unless we assume reciprocity, which is the question in dispute. I am only pointing out how much common ground there is between the two cases.[1] The Law of Contradiction seems to me enough to settle the question. It is a contradiction to affirm differents as determining an identity without a distinction in the identity.

Therefore, to conclude, I am forced to reject the assertion, founded upon Dr. McTaggart's examples, that "it is clear that reciprocal determination does not hold universally" (p. 342). It does not appear to me to be true (*ibid.*) that drunkenness determines the drinking of alcohol, nor that red determines the red thing being coloured. In all these cases the true implication is disguised by an irrelevant addition, as we see immediately if we look with care at the complex within which each of them falls, and particularly if we are alive to the negative limit of relevance. The fate of the proposition about drunkenness, which we studied above, is enough to show that we have, in its first form, merely a defective statement, which when the defect is remedied becomes reciprocal. Therefore the cirenicon on page 342, which would leave some determination non-reciprocal, but open the possibility of one reciprocal determination for every characteristic, seems to me to underrate the logical necessities of the situation. The whole statement, to my mind, is thrown out of gear by looking at experience under the aspect of repeated conjunctions of occurrences, rather than under that of a systematic complex, however imperfectly established in its particulars.

[1] I pointed out elsewhere (Adamson Lecture, 1913, Appendix) that in the volume called the *New Realism* the feature called by the authors "logical priority" (the relation of condition precedent of truth occupied by the "implied" to the "implier") is maintained in effect to belong *both* to antecedent over consequent, *and* to consequent over antecedent (I do not say by the same authors). Reasons are alleged for both views, but they are of course in flat contradiction. This seems to suggest strongly that the two terms must be on a level in point of implication (*cf.* Dr. McTaggart, pp. 333-334).

BERNARD BOSANQUET.

THE INDETERMINATION OF MEANINGS.

Dr. Schiller's view, as given in Mind, No. 96, page 539, of the special risk involved in the use of predicate terms is so entirely in accordance with my own that it is difficult to find any question in dispute between us. I fully agree with him, for instance, that we are not here concerned with complaints against the judgment in general, and that to resent the existence of a risk that we see to be inevitable would be futile. What we ought to resent, or at least to regret, is not the risk itself but the too common habit of ignoring it. As Dr. Schiller, Captain Knox, and I agree, it is systematically ignored in the traditional logic, and consequently by philosophers—where otherwise modern or not—whose innovations in logic have not gone deep enough to include this fundamental point. For example, Mr. Bradley, in spite of a general wish to depart from logical tradition, and in spite of one isolated passage occurring casually near the end of his *Principles of Logic*, has repeatedly shown [1] his failure to understand that the risk of ambiguity is inseparable from the use of predicate terms. If he had ever realised what are the conditions of significant predication he would not have tried to maintain that the discovery of an ambiguity is an unintelligent kind of doubt, nor could he have put forward his doctrine that "you are once for all and for ever condemned to mean what you say"; he would have seen that if attempts to revise our expressions for the sake of making our meaning clear are to be disallowed in philosophy, that merely reduces philosophy to a poor verbal game.

Can we perhaps find a difference between Dr. Schiller's view and mine in the last sentence of his note? He there suggests that to speak of indeterminateness as a 'defect' may produce confusion by looking too much like a concession to intellectualist logic. I think it could only have this appearance if it were taken apart from the explanations given along with it. All that is really conceded is a point of view—namely, that in which words are considered apart from their use in a particular context. And the

[1] See, for instance, a case noticed in my *Use of Words in Reasoning*, p. 224 n.; see also Dr. Schiller's criticism in Mind, No. 73, p. 41, of another vital point in Mr. Bradley's doctrine. The passage in the *Principles of Logic* is referred to, and effectively commented on, by Dr. Schiller in Mind, No. 95, p. 350.

concession is openly made for the purpose of saying: "Even from your own point of view, your doctrine is false; for there are no descriptive words that are perfectly 'univocal'; *all* are in this respect defective".

I think too that for certain limited purposes no fault need be found with the point of view itself. It is only when we assume, as formal logicians do, that no other point of view is possible, that logical doctrine suffers.

ALFRED SIDGWICK.

VI.—CRITICAL NOTICES.

Anschauung und Begriff. Grundzüge eines Systems der Begriffsbildung. Von Dr. Max Brod and Dr. Felix Weltsch. Leipzig: Kurt Wolff Verlag, 1913. Pp. xv, 247.

As the title suggests, this book attempts to form a theory of the psychological development of the concept from its inspective (*anschaulich*) basis in sensory experience. The universal is held to be the point of a pyramid whose broad basis lies deep in the realm of inspective, perhaps half-unconscious, experience; it is the highest rank of the processes that modify the given. The authors believe they have found all the intermediary steps between the concept and the raw material of inspection. The only gap may lie amidst the conceptual sphere itself, between the inspective and the scientific concept. Extensive references are made to recent experimental work on thought and abstraction, to literature dealing with the '*Gestaltqualität*,' and to phenomenological essays, especially those of Cornelius, H. Gomperz and E. Husserl. The work is crisply written and is prefaced by a useful analysis of the subjects discussed in each chapter. In spite of these merits of purpose and effort I cannot think that the constructive scheme offered by the authors either serves to clarify the facts or to decide between opposing theories.

In fact the book seems merely to add to the prevailing confusion of opinion regarding the relation between sensory experience and thought. It is but another device for suggesting that thoughts are formed of the same mental stuff as sensations and so for discrediting the growing group of psychologists who claim to find a radical difference of nature or stuff between sensation and thought. In this respect the work allies itself with the recent efforts of C. Rahn to form a presumption [1] in favour of a sensationalism, which in spite of some independence of opinion, works out very close to the pattern of Titchener's. But though our authors do not follow the well-worn tracks of kinæsthetic theory, their plan shares with the American variety the claim that much of our thought seems to be non-sensory, because the sensations which have gone to its making have confused each other's individuality or have decayed through over-use.

[1] The relation of sensation to other categories of contemporary psychology. *The Psychol. Monographs*, 1913, xvi., No. 1, esp. 115 ff.

It is natural that the author of a theory should have a strong belief in its validity; otherwise his efforts to support and justify it would be a mockery. And we expect the confidence of the author of the true theory to be the greater for his insight into the truth. But if a theory is to become an arch in the castle of science, it must stand firm without the builder's frames of faith. Strong assertions of belief are apt to arouse as vigorous opposition, which rarely hesitates to reject all other views as trivial and unintelligible. Opponents not only fail to be reconciled, but their differences become more and more acute. The frailty of the science then reveals itself collectively in the formation of "schools" of opinion. That appellation points a warning finger at the influence of local authority and suggestion. It reminds us how little chance of life the favoured theory would have outside such genial surroundings. The psychology of thought has evidently attained this unhappy stage of its development.

But in spite of violent differences of theory there is an obvious increase of unanimity about the crude facts of observation. This could hardly long be wanting where experimental practice is familiar and decisive. Observers of all "schools" assert that they think and intend, and are sure or doubt, and know that they know, or know that they will not succeed, and so on. This establishes a greater semblance of equality of justification between schools; for it destroys the brief authority that is given by priority of observation. The issues then hang upon interpretation and theory, and in a really difficult problem there is no connexion at all between the age of a theory and the justice of its claim to inherit the truth. The vesture of venerable tradition will rather hamper than help the heir in his struggle for recognition. In these days of violent dispute it may be of interest to inquire by what signs or marks the true theory may be recognised, and in what respects our authors' theory comes short of the ideal.

Where there is so much debate about the nature of thought, it must surely be obvious that even thought itself—for the thinkers who wish to discover the essence and roots of its being—is an independent psychical reality. In a certain sense it is just as real and independent as is any physical reality. We can all distinguish between a fly and an elephant, and when two fluids are mixed we can notice a change of colour and of temperature. Dispute begins only when we attempt to detect the common substance and origin of the elephant and the fly, or to discover the cause of the change of temperature or colour. Any one can see the difference between starch and sugar, but their real difference could only be ascertained when chemical science had grown up to, and incorporated, their complexity. The lesson for psychology seems clear. We shall be unable to state the full value of the obvious difference between sense and thought, till we have established a method of successful and exhaustive analysis of sen-

sory experiences and have succeeded in arranging these in their order of complexity and in their connexions, not only systematically but convincingly. As in chemistry, so in psychology, we need some means of knowing approximately when we have a sufficient theory. At present theories are merely preferences. Not one of them convinces its opponents; and it is therefore to be inferred that it does not convince even its adherents; it only pleases and charms them. Let us then gather our facts about thought diligently, but let us look to the elementary foundations of psychological science for the theoretical basis on which to build their explanation.

The key to our authors' system is found in their interpretation of the now well-known facts regarding generalised images. Their term for this genus of sensory experience is *Anschauung;* let us call this 'inspect'. *Das Anschauen* will then be inspection and *anschaulich* inspective. The important question may then be stated: To what range of experience may the predicate 'inspective' still be applied? How far up the pyramid leading from the elements of sense to the concept are experiences still inspective? Obviously it all depends upon what happens to the inspective elements on the way. Let us read what our authors tell us: "Thinking thus shows itself to be a further development of inspection, which is characterised by the fact that in consequence of certain changes of the attention greater and greater pieces of the A fall into the x; so that in the A there remain finally only certain elements, which make it appear likely that this thinking could be simply designated non-inspective. But this would be right only if the term 'inspective' were to be used in the sense of the ideally complete inspect, apprehended fully and thoroughly with highest attention and strongest tension of sense-organs. We believe that we have shown that this is impossible, if only on account of the constant local differences in the distribution of the attention which must be balanced by considerable processes of blurring. But if that is left out of consideration and if the material that is not exactly in the focus of attention is also called inspective, our concept of the inspect is also therewith accepted. For then it is a matter only of more or less, without sharp boundary, and there is no saying at what point of this scale of blurredness, that leads from what no longer stands quite in the focus of attention, through what is getting more and more blurred, to what is not properly conscious, the inspective should be called uninspective" (p. 166). There we have the whole doctrine in a nutshell. Blurring by overlaying, much after the manner of Galton's composite photographs, but with modifications and restrictions which, of course, rescue the notion from the crudity of Galton's idea, is the process that turns inspects into concepts; and, of course, concepts are inspective.

The reader can imagine how this doctrine would be received by

members of the non-sensory thought schools. No doubt 'generalised' images do occur; they are familiar to all who have had occasion to make systematic introspection under experimental conditions. The famous blend of triangles is, of course, not to be expected, but there are countless others quite as decisive in nature. Shall we then tell our authors that that sort of image is not therefore general, any more than a fading after-image is, and for various reasons cannot be a step on the way to the concept? To do so would be merely to repeat efforts that have already been made in vain. The sensationalistic literature of America of recent years shows how little conviction of error the most cherished distinctions of the non-sensory thought schools have aroused amongst their opponents. The bias of sensationalism can trace its own image in the most diffused appearances of thought. Have they not said and do they not tell us: How full of fantastic superstitions your doctrine is; your thoughts must be infinite in number and ineffable in being; surely you have forgotten the part played by the cortex; you do not seem to share the wonderful wealth of kinæsthetic imagery of our observers; you do not seem to realise the tricks even your imagery could play you; your methods are crude and offhand, you simply throw away as irrelevant what you do not like and then pretend to discover you cannot find it; you speak of sensations as if they were unchangeable atoms, but do think for a moment what is involved in the notion of process, every one knows that a 'state' is a myth; you yourselves say you often find only one attribute at a time, and, pray, where are the others at the moment; do you not see that your thoughts are only such 'wandered' attributes?

The reply to this array of persuasions is the judgment that amongst them there is not a single real argument. They are all mere presumptions, which make much show and effect, but have no objective force. They are such lean kine that a single newborn calf of real argument would swallow them without the least loss of appetite. Can then the counter-reply be made? Can sensationalism brand the 'arguments' of the non-sensory schools as mere presumptions? Surely it can; otherwise we can hardly explain how its mere presumptions could maintain themselves in men's minds against these real arguments. But a battle of presumptions with presumptions might last for very long. The main presumption made by the non-sensory schools is the assertion that the difference between sense and thought is not a great and subtle one but a radical difference, a difference of kind. The sensationalists have now learnt to admit the difference, but they maintain that it is only apparently great, in reality subtle and trivial. Thus a position of stalemate between the two schools has been found.

The problem of vitalism in organic chemistry reduces itself to a similar issue. As in it, so in psychology, we can expect a solution and unanimity only when the psychological science has raised itself from its elementary foundations to the level of the thought processes.

But the sensationalist may not reply that it has already done so —in his school; not while he entertains the household of presumptions enumerated above. Both schools must leave their radical and subtly great differences alone, for the issue between sense and thought is far too broad; the opposing parties must come out into the open, and put up a small, fixable, ordinary difference, the first and simplest difference they can find, and fight the matter out on that. Both schools admit that there are differences within both spheres—sense and thought, so that there is wide scope for detail work.

An example comes to hand from our authors. They accept much familiar teaching regarding *Gestaltqualitäten—Relationen* as they call them. What sort of experiences are they? In order to decide this they accept Brentano's broad division of psychical phenomena into three groups: inspects (*Vorstellungen*), judgments, and interests or feelings; and, of course, relations are *Vorstellungen;* "moreover, we maintain *inspective Vorstellungen*". They are truly ultimate elements of inspective experience. They fall into two groups, simple and complex. Complex relations are built up from simple ones; either of the same kind, hence *e.g.* 'square' from different place relations; or of different kinds, *e.g.* melody from tones and qualities; or again motion. The relation is dependent upon its foundations but is more than the sum of them. And "as is well known the recognition of relations rests upon the blurredness of its foundations" (p. 118).

If all this be so, relations form precisely the kind of battle-ground desired. They involve blurring and overlaying (p. 123), there is not a subtly great difference between them and their foundations, the difference is slight, or the authors would not say: "And they are, we maintain, inspective *Vorstellungen*". And finally the relation is more than the sum of its foundations. We would propose to our authors that they apply the term inspect to the foundations of relations and that they then show cause why that term should be applied to the relations themselves, full, detailed, methodical cause, every trifle of which we can follow, and accept or reject. Then we shall have some idea as to whether the concept is inspective or not. For why should we not from their system say the concept is a relation? If the occurrence of relations depends upon the caprice of attention (p. 119), why should not relations be also right or wrong? And if the concept be a 'relation,' who shall then say that concepts are inspective? It all depends upon what decision is given for the simpler relations. But if relations (including concepts) are always something more than the mere sum of the foundations, it is a matter of moonshine whether they are called inspective or not.

Not only is the main hypothesis of our authors' scheme unconvincing, but so are its subsidiary props. The chief of these are the notion of *Verschwommenheit* or blurredness, and its counter-

part the *Gesamtanschauung* or mass inspect. In fact, the former occupies so central a position in the whole scheme that the authors themselves at times felt inclined to call their work "a monograph on blurred *Vorstellungen*".

We have already read how the process of blurring enters into the explanation of thoughts and concepts. It is everywhere brought into action; it has to make up for all deficiencies due to want of method and to hide the improbability, so obvious at first blush, that concept and sense are not different kinds of experiences. At the same time its balance and counterpart—the mass-inspect—serves to retain for experience the clarity and order that it so often shows. The authors believe that "a unitary undissected mass-inspect, in which the various parts are not yet *distinguished* from one another, forms the original inspect". Nevertheless we have to believe that "on later dissection these parts are not, as might be thought, invented or introduced from elsewhere, but are *discovered* in the whole". The second sentence obviously implies that the word 'distinguished' in the first means 'different'; otherwise the whole passage, apart from the primacy of the mass-inspect, becomes a mere tautology, *viz.*, when parts are distinguished, they are distinguished. A system which is thus suffused with the notion that things are there that are not there, can hardly claim to be clear.

The theory of the original unitary mass-inspect is right or wrong according to the meanings given to the term inspect. If the idea is that a sensory experience comes to us always only in large *outlines*, it is certainly wrong. I very much doubt whether such an idea or its predecessor of the 'undifferentiated continuum' is even capable of intelligible formulation. The jugglery loses its charm when all creation is pulled out of the borrowed hat. Why borrow a hat at all? Why start with a mass-inspect rather than with the elements of sense? Let psychical creation come forth in its order without having to pass through the birth mystery of the soul or the brain or the *Gesamtanschauung* or any other agent or halo. On the other hand, if the idea is that our *percepts* are at first large in scope and gradually become more specific and detailed, there is probably much truth in it. Then we can say with truth and without tautology that the various 'parts' of our first large percept are not yet distinguished from one another and are later perceptually discovered. Or more exactly, the great mass of data upon which our first percept is founded afterwards provides a foundation for a large number of percepts of smaller scope. In a passage on page 38 our authors express a theory of thinghood or substance which would have served them better in a study of perception than their notion of the mass-inspect.

Our authors' notion of blurring is too special to allow them to reply that of course they do admit the existence of the elements of sense, and merely qualify that existence with the predicate *uneigent-*

lich bewusst, not exactly conscious. They give an example which excludes that interpretation. A certain article seen in diffused attention "had not the quality green or black, but a blurred quality. That is, of course, no mixture of green or black, as it were a greenish black (that were a much too crude expression of sense), but a quite peculiar . . . phenomenon, whose being consists in this: (1) that it is indefinite, dull and weak, with flowing boundaries . . . (2) that under certain conditions it can pass over into sharper phenomena," *e.g.* the remark of an eyewitness may restore the memory of the clearly seen colours green and black and the exact form of the article; "whereby the important point is that this revived picture of memory presents itself not as something foreign to the blurred picture, but as something already somehow contained in the blur". With this another quotation may be compared: "the judgment, before numerous processes such as repetition, etc., make it fully conscious, is contained in the inner mass-inspect exactly in the way we have already seen that the single quality is contained in the outer mass-inspect previous to its becoming fully conscious" (p. 33). "Judgment is an enduring act which accompanies everything and is oft only unconscious" (p. 27).

Taking those none too clear statements with all possible goodwill, I do not feel convinced that the notion of 'blurring' is in any way applicable to our inspective experience, or indeed to any experience at all. Neither experience nor a picture is ever blurred. It is blurred only in a relational sense, in so far as its adequacy to portray a certain reality or to fulfil a certain task is concerned. The idea of blurring, in other words, belongs not to the objects of psychology, but to general objective knowledge, of which psychology itself forms a part. As veridical and practical instruments both experiences and pictures may be blurred; but in their subjective and in their æsthetic reality respectively they are never blurs. The aim of psychology is to know the subjective reality at all levels of the growing pyramid, whether the slabs have been got into proper balance or not. The aim of the picture is to be admitted to the mind as it is so that its full action may be there attained.

Nor are the changes in an inspect that the authors group under the term 'blurred' sufficiently analysed and separated from one another. At one moment we read of a scale of clearness in which each inspect takes a place, at another of changes of adaptation in the sense-organs, and again of progress or change in the knowledge of the subject or in his preparation to observe and know. But not even Titchener's clear analysis and vindication of the attribute of clearness can be said to have succeeded; and whatever the varieties of the knowing process may be, none of them can be held to be a blurred experience, however indefinite or indirect in its logical aspects the knowledge they embody may be.

HENRY J. WATT.

Certitude et Vérité. By Émile Boutroux, Membre de l'Académie Française. London, 1915. Published for the British Academy by the Oxford University Press. Pp. 22.

Thanks to M. Boutroux, the recently endowed Henriette Hertz Lecture of the British Academy makes a good start. His lecture is not only expressed in characteristically lucid and graceful language, but is also full of fine and pointed sayings, and pervaded by a nobly humane sentiment.

The method of M. Boutroux's discussion is dialectical. Starting with the common-sense assumption that certainty and truth mean the same thing, he shows that conviction collides with conviction and that intensity of conviction is no proof of truth. This suggests that truth and certainty are radically distinct, the one belonging to the scientific, the other to the moral, order. Of this dualism Kant is taken as the representative, and it is then shown that it may be resolved in two ways, by reducing either certainty to truth, *i.e.*, will to intellect, or truth to certainty, *i.e.*, intellect to will. Both procedures are exemplified from Germany, the former from Hegel and the Berlin Academy of Sciences, the latter from Fichte, Schopenhauer and Nietzsche. But the former procedure leads straight to "the annihilation of individuality, freedom, personality, spirit, consciousness, soul, beauty and morality, and allows nothing to remain but a world which is rigorously material" (p. 12). Truth therefore must not be conceived as a purely objective thing, and subjectivity also is a principle. "Truth must be seized, understood, affirmed by a living spirit." The opposite procedure reduces intellect to will, and, in the last resort, will to force pure and simple, so that the notion of truth loses all meaning. Where then shall a third term be found to mediate between certainty and truth? Pragmatism introduces *feeling* as a third term. Truth must now yield satisfaction, and satisfaction may reassure us, and assure us of truth. Pragmatism has great merit, but it is not definite enough. If we say, 'every proposition is true which does not disappoint us,' are we not really saying 'it is true, if it conforms to truth'? And if we say, 'I feel certain when my satisfaction resides in the highest part of my nature,' what is this but the satisfaction of a will that chooses a certain form of existence? Hence Pragmatism can hardly avoid either vagueness or a vicious circle (pp. 18-19).

M. Boutroux's own solution is to interpolate feeling as an original principle between certainty and truth. By itself neither could act on the other; but both act on feeling, and are influenced by it. Thus the three powers are bound together by feeling into a trinity, in which each is one and many, itself and the others (pp. 20-21). The lecture concludes with some excellent remarks: (1) on the mistake of considering science merely as a completed structure, and not also from the standpoint of its maker, who constructs the scientific 'fact,' uses principles of choice and

elaboration, and admits æsthetic feeling even into mathematics; (2) on the ethical value of will if it is not divorced from feeling and intelligence, and (3) on the justification of toleration which results from abandoning the notions that ethics is a science like physics and that personal conviction is a sufficient justification for anything one does.

M. Boutroux's tone and method must appeal so strongly to a humanist that criticism can only take the form of elaborating his most interesting train of thought, which deals with a problem of first class importance that has never been sufficiently investigated. I note therefore with a little surprise that M. Boutroux is so superior to the bias of patriotism that he only just alludes to Pascal, and does not mention Descartes at all. Yet it is plainly Descartes's endeavour to arrive at certainty, and so at truth, that has put the question to all subsequent philosophy. Moreover the whole of logic has been pervaded, and in my opinion profoundly perverted, by the assumption, which comes out even more clearly in Descartes than in Plato, that to attain truth we must start from certainty, and that if once we begin to doubt we must go on doubting for ever. Lastly it would have been most interesting to have M. Boutroux's opinion of Descartes's very original theory of judgment.

The German theories, on the other hand, which M. Boutroux treats with so much respect, surely all suffer from a glaring defect of method, *viz.*, false abstraction and the hypostasization of 'faculties'. What *are* 'will' and 'intellect,' and, one must add, 'feeling'? Has any mortal man ever observed or experienced any of them as such and in their purity? It is not contended, even by their advocates, that this is possible; it is admitted that they are discernible only in concrete mental operations which display them in a trinity. But why then insist on trisecting the soul by these figments, when so soon as you wish to observe its real functioning you have to abandon your 'analysis' and to restore the unity you had dissevered in thought? Surely the real fact all along is a *person* who thinks and feels and wills, and does all three in a thoroughly individual and personal way, which can be identified with the ways of others only roughly and for practical purposes. Hence the 'analysis' which dissolves the integrity of the personality into a conglomerate of such faculties, and conceives them as so different in kind that they cannot be thought as reuniting except under external compulsion, is surely a fiction which explains nothing and to which a really radical empiricist has no need to commit himself.

I venture therefore to suggest that to describe the pragmatist solution of the problem in terms of these fictions does pragmatism somewhat less than justice. There does not exist for it any problem of mediating between 'intellect' and 'will,' because its aim is to show that, studied in their concrete operation, no intellectual processes conform to the ideal of 'pure thought,' that all

are pervaded and impelled by forces that have been classified as volitional and emotional, and that, *even intellectually*, the human intelligence is not intelligible so long as these facts are ignored.

Pragmatism therefore does *not* introduce a third term akin to both the others in speaking of 'satisfaction,' if that implies that it has recognised the others as separate 'elements'. It is essentially humanism, and appeals to the whole man. Of course its formulations *can* be taken abstractly, and when so taken they will seem vague. For the sentence which draws attention to the function of satisfaction in cognitive endeavours does not simultaneously and *per se* describe the methods of comparing and evaluating satisfactions or establish (and still less *fix*) their order of merit. But this does not mean that these subjects are not to be studied in the concrete cases; and when they are so studied, both the 'vagueness' and the 'circularity' complained of will be found to disappear, just because the analysis of every actual problem of knowing will be found to leave the 'true' solution in the position, not of an 'absolute' truth, but of the most probable and satisfactory interpretation of the extant 'facts,' which is preferred, for reasons that can be intelligibly stated, by whoever accepts it as 'true'.

For this reason also it would seem that science is logically bound to be tolerant, on the principles of a humanist logic. For to science truth is never an immutable indefeasible dogma, but essentially the most *valuable* interpretation up to date. Its verdicts therefore are always reversible, and its defeated theories, when reinforced by fresh evidence, can recover themselves and even vanquish their conquerors. There is no finality about the bloodless and salutary struggle for existence among scientific truths. So even M. Boutroux's example of the law of gravitation is quite open to revision. A physicist who proposes to deny it is quite entitled to do so, if he can propound an alternative 'law' which will interpret the known facts better, or elicit unknown facts that baffle the old formula, or both. Nay, have not modern physicists actually done this very thing? Do they not deny that Newton's law applies to 'electrons' and speculate as to how and when bodies may have acquired the habit of gravitating?

Similarly the personal influence, which humanism traces in all sciences and all 'truths,' must conduce to toleration. For no one can really, in the last resort and in theory, lay down the law for another. He cannot have the same data, he cannot perceive with the same organs, he cannot judge with the same mind. It is always possible, therefore, that the considerations which rightly determine his convictions, may as naturally and properly fail to affect another similarly, and that relatively to *his* situation the other also may be right. Thus both in science and in morals modesty and toleration become the fruits of humanism. And I cordially agree with M. Boutroux that tolerance is a most precious attitude of mind to cultivate in the pursuit both of the good and of the true.

F. C. S. SCHILLER.

VII.—NEW BOOKS.

The Limitations of Science. By L. T. More, Ph.D. Constable & Co. Pp. 268.

The first six chapters of this book consist of a severe criticism of the use of hypothesis (in a certain sense) in physics, with illustrations from modern views about electricity and mechanics. The seventh and last chapter criticises the attempt to make natural science an 'arbiter of ethics'.

Mr. More contrasts the abstractive method, by which he considers that all valuable discoveries in science have been made with the hypothetical method, which he regards as always useless and seldom harmless. The abstractive method consists in analysing what we actually perceive, generalising the regularities which we discover and thus formulating laws which still refer to what we might perceive, and then verifying these laws by extending our observations. The hypothetical method for Mr. More seems to be exemplified by any theory which attempts to explain what we do perceive in terms of what we do not and cannot possibly perceive.

Of course even the abstractive method uses hypothesis as Mr. More would admit. It was an hypothesis of Newton's that all bodies attract each other with a force proportional to their masses and inversely proportional to the square of their distances. But it was not an objectionable hypothesis because it simply extends to all observable bodies what had been found true for some observed bodies. On the other hand the wave-theory of light according to Mr. More is objectionable because it attempts to explain what we do perceive—light, its reflection, refraction, etc. —by the action of what we cannot perceive under any circumstances, *viz.*, waves in a supposed medium. It would seem then that the real difference between sound and objectionable hypotheses rests on whether the entities assumed in them are merely more of the same kind as we can observe or are ones which we could not possibly observe.

Now why does Mr. More object to the latter sort of hypotheses? His argument is not very clear or systematic, but his main objections seem to be these: (1) No hypothesis of this kind has ever led to a discovery; (2) Such hypotheses cause much waste of time and ingenuity. People of great eminence argue with great learning about whether electrons which no one can possibly prove to exist be spheres or discs, and so on. If they devoted the same ingenuity and labour to the abstractive method we should know much more about nature than we do; (3) The decision between rival hypotheses is a purely subjective matter; (4) Some hypotheses (*e.g.*, Einstein's *Theory of Relativity*), though logically flawless and compatible with all observed facts wantonly conflict with common-sense, or postulate what is simply not realisable in imagination.

(1) With regard to the first point Mr. More uses an argument which is certainly fallacious. He says: How could a hypothesis (such as the corpuscular theory of light) have led to the discovery of a fact (*e.g.*,

aberration) when we continue to believe in the fact after we have ceased to believe in the hypothesis? This however is a complete *non sequitur*. If p implies q and I believe p this may lead me to look for q. If I find q and then later cease to believe p this will not alter the fact that p *does* imply q and that it was my belief in p that made me look for q. I think Mr More makes the following false argument. From (1) Either of several incompatible hypotheses might have caused me to discover the same fact; he concludes (2): This proves that none of them actually led me to discover the fact. As a matter of history I should have thought there were several cases where obscure phenomena were only looked for because they were implied by some hypothesis which was believed at the time. One example is conical refraction, another is the discovery of the small light spot in the middle of the shadow cast by a disc. These were both looked for because they were rather odd and paradoxical results of the wave-theory of light.

(2) We may agree that from a practical point of view very minute researches on the structure of purely hypothetical entities like electrons are rather a waste of ingenuity. But I certainly cannot agree that the working out of hypotheses has interfered with the experimental study of nature. On the contrary it is continually setting problems to the experimenter by suggesting results which ought to follow if the hypothesis be true. *E.g.*, Maxwell's theory led to the important experiment on whether a moving charged body cuts as a current, and the common hypothesis about light and its transmission through the ether led to the celebrated Michelsen-Morley experiment. The one is an example where the experiment supported the hypothesis that suggested it and the other one where the experiment refuted it.

(3) At one point (p. 144) Mr. More goes so far as to say that if a system can be developed from one set of postulates the same result can always be obtained from their contraries. As a matter of pure logic this is mistaken. From the premises Pa M and Me S the conclusion Se P can be obtained; from their contraries, Pe M and Ma S we cannot derive Se P. I do not deny, however, that there are a few fundamentally different ways of viewing the universe (*e.g.*, atomism and hydrodynamical views) from which the same results can be deduced if suitable special postulates be made. The real fact, of course, is that the probability of a hypothesis depends on two factors: (1) How far does it fit the facts? and (2) What is its intrinsic probability? The first is not subjective at all. The second is only partly so. Any hypothesis consists of a number of logically independent assumptions, and the intrinsic probability of each of these is no doubt largely subjective. But, other things being equal, the intrinsic probability of the hypothesis that contains more logically independent assumptions is less than that of the hypothesis that contains fewer. And this, I suppose, is one of the strongest supports for the Theory of Relativity; the Michelsen-Morley experiment could have been explained on the older views by introducing further independent assumptions of little intrinsic probability. The Theory of Relativity enables us to avoid these, and rests its assumptions on experimental facts and on certain genuine but commonly ignored characteristics of our measurements of distances and durations.

(4) Mr. More severely attacks Larmor's theory of electrons as strains in the ether and the modern mechanics which is associated with Einstein, Minkowski and Planck. I must admit that I do not understand what precisely can be meant by a moving strain in a non-mechanical ether. Mr. More seems to admit Einstein's general reflexions about measurement; but he argues that these ought not to affect our commonsense notions of time and space. Now it is perfectly true that Einstein's

theory only *directly* touches our measures of space and time, and that all the results of the Theory of Relativity can be made to square with the most traditional views of space and time. But, as against Mr. More, I should hold that the newer views are an attempt to be *more* empirical not to be more abstract and hypothetical. What is felt is that the space, time and matter of science have a suspiciously 'tidy' and artificial appearance; that they differ greatly from what we can measure and from what we directly experience. Surely it is not unreasonable to try and start with som thing nearer to what we actually experience and measure —a kind of mixture of space, time, and matter—and show how the space, time, and matter of ordinary physics with their tidiness and independence can be logically developed out of it. This seems to me to be the merit of Einstein's work, and still more of that of Messrs. Russell, Whitehead, and Robb.

Mr. More further objects to the attempt to explain mechanical mass in terms of electricity. He says quite truly that we never find electricity apart from matter and that since we can only measure $\frac{e}{m}$ for electrons it is just as open to us to assume the constancy of m and the variability of e as the converse. I imagine that the answer that would be made is that we seem to have no prospect of explaining electrical charge in terms of inertia, whilst the laws of electricity in motion on the bodies of daily life do involve the phenomenon of electro-magnetic inertia. There is thus an obvious simplification in trying to build up a theory in terms of electrical charges and their laws alone.

I must next notice some very odd remarks on physical and mathematical points which occur in various parts of the book. (1) Page 11. 'If ether be discontinuous it must be porous and what becomes of our link between atoms?' I do not see why one atom should not be connected with another by continuous (but crooked) bands of ether even if ether had many holes in it. (2) Page 29. If 'the transmutation of elements' was 'announced as an assured fact' it was not because radium 'gave off energy,' but because it gave off a series of emanations of decreasing atomic weight and varying life which ended with helium. (3) Page 53. Ether must have friction to be set in motion by electrons; it cannot have friction or it would absorb light or heat energy. I do not see why there should not be friction between matter and ether, but no friction between one part of the ether and another. (4) Pages 62-63. It is apparently argued that it is some objection to the electron theory that electrons may be divisible; and it is supposed to be ominous that the chemical atom is now regarded as divisible. But surely no physicist needs to suppose that *nothing* will divide electrons. It is enough to say that there are certain stages in the division of matter—molecules, atoms, electrons—where forces that broke down the larger aggregates cease to be able to break down the smaller ones. (5) Page 86. Descartes's law of the conservation of momentum was the progenitor of the conservation of energy. Surely not. The law of the conservation of momentum still holds, though Descartes's form of it was wrong. (6) Page 148. 'Kant maintained that we were endowed with an innate idea—of pure space and time. These qualities are, however, by themselves inappreciable to our senses. To make them sensible we need a third' (What?), 'which he calls the Ding an Sich'. I hardly think that most people will recognise Kant's theory of time, space and matter in this account. (7) Pages 175-176. This is a curious argument to prove that the velocity of radiant energy is not merely relative. To prove this the author says that energy depends on the square of the velocity and this squared velocity must necessarily be positive, independent of direction. With regard to this astonishing

argument I can only say (*a*) that the energy of radiation does *not* depend on the square of the velocity of transmission, which is what Einstein is talking about, but on the square of the amplitude of disturbance. And (*b*) that if it did depend on the square of the velocity of transmission, I fail to see how this could prove that the velocity itself was an absolute one.

In the final chapter Mr. More discusses and rejects the view that science can provide a system of ethics. He seems to base his denial, which is certainly true, largely on the difficulties of eugenics! He fails to see that if eugenics were perfectly satisfactory in theory and in full swing in practice it would still not be *ethics* that is founded on science, but certain practical rules as to the best means to a class of goods.

Frankly I cannot highly recommend this book. Much that is in it is true; but the arguments have little tendency to support the conclusions. the science is often inaccurate, and the philosophy confused.

C. D. Broad.

Three Lectures on Æsthetic. By Bernard Bosanquet, D.C.L., LL.D. Macmillan & Co., Ltd., 1915. Pp. vi, 118. 3s. 6d. net.

All those who are acquainted with Mr. Bosanquet's history of Æsthetic will be glad that he has now given us an account in outline of his views on its fundamental problems, so that his main positions can be more readily grasped than in a work which was first and foremost a history. In three lectures, of course, only the most important points can be touched on; yet Mr. Bosanquet has succeeded in saying a great deal within these narrow limits, and has not only expounded his general theory pretty adequately, but has illustrated its application to several of the disputed points in the subject.

Æsthetic is looked on by the ordinary man with even more suspicion than the other departments of philosophy; and it must be confessed that the literature of the subject is rather bewildering. One reason for this is probably that there is no one generally recognised starting-point for the inquiry; one writer begins by examining the nature of beauty, another with the æsthetic feeling, a third with the æsthetic judgment. And although it is no doubt impossible to proceed very far on any one of these roads without striking the others, still these differences add to the difficulties of the student.

Mr. Bosanquet starts from the simplest æsthetic experience—a pleasant feeling of a certain kind; this is probably the best starting-point, since it assumes nothing beyond what is certainly present in our experience, whereas inquiries into the nature of beauty are held up at the very beginning by the question whether beauty is subjective or objective. Lecture I. is occupied with the further definition and analysis of this æsthetic attitude. The author proceeds by successive partial definitions, each carrying the analysis a step further; and the conceptions which are needed are introduced and explained as the analysis proceeds. "Object," "embodiment," "contemplation," "form," "imagination," and "expression" are the chief of these conceptions; and finally we reach the description of the æsthetic attitude as: The pleasant awareness of a feeling embodied in an appearance presented to imagination or imaginative perception, or alternatively: Feeling expressed for expression's sake, or, as it is stated earlier in the lecture: Feeling embodied in "form".

Lecture II. explains how art, which in its primary form consists of such things as simple patterns, is widened and deepened by the bringing in of representation. And it is shown how the representation of a natural

object in a work of art involves, not a mere copying of the object, but a carrying off of its soul and its embodiment in a new medium. This leads on to a discussion of how different media demand different treatments, of how the patterns you make in one material cannot be just the same as those you make in another. And finally we see that "the differences of the great arts are simply such differences as those between clay-modelling, wood-carving and wrought-iron work, developed on an enormous scale, and with their inevitable consequences for whole provinces of æsthetic imagination".

In the third lecture the author discusses the relations to each other of the different kinds of beauty. He insists on a distinction of "easy" and "difficult" beauty, and shows what are the qualities in the latter which make it more difficult of appreciation. Ugliness is analysed and is found to be, not anything positive, but an attempt at expression which has failed. Finally there are a few remarks on "art for art's sake," and the book ends with a quotation from Goethe.

It will be seen that the three lectures cover a great deal of ground; and the above bare summary fails completely to do justice to the brilliance and suggestiveness of the work, particularly in the second and third lectures. But praise of one of Mr. Bosanquet's eminence would be in any case an impertinence. So I shall confine myself to stating a few difficulties which I find in the general theory as it is outlined in the first lecture.

(1) The main problem of æsthetic is how a feeling can be *embodied* in an object; it is the precise nature of *embodiment* which is the centre of the whole discussion. To this point Mr. Bosanquet returns again and again. My difficulty is this. There seem to be two feelings somehow involved in a work of art and its contemplation: (*a*) a feeling, such as pity or longing, which exists in nature and which can be expressed or embodied in a work of art; (*b*) the feeling which we experience in contemplating such a work of art. These seem to be obviously two different things. But it is often extremely difficult to know to which of them Mr. Bosanquet is referring. It might be supposed that he only means feeling in sense (*a*), for he does not usually talk of our attitude towards the object as being a feeling, but as imaginative contemplation *of* an object, or pleasant awareness *of* a feeling. But he also seems to mean to identify our feeling *towards* the work of art with the feeling which is embodied in it. For he says: "The æsthetic attitude is an attitude in which we imaginatively contemplate an object, being able in that way to live in it as an embodiment of our feeling"; and the feeling here referred to is not some feeling which we have started with and succeeded in embodying, but a feeling which does not exist until we are contemplating it as embodied. "We must not suppose that we first have a disembodied feeling, and then set out to find an embodiment adequate to it. In a word, imaginative expression creates the feeling in creating its embodiment, and the feeling so created not merely cannot be otherwise expressed, but cannot otherwise exist, than in and through the embodiment which imagination has found for it" (p. 34); and again, "You have not the feeling and its embodiment. The embodiment, as you feel it, is the æsthetic feeling." Here Mr. Bosanquet seems to mean that the feeling we have in contemplating the object is embodied *in* the object, *i.e.*, that there is an embodiment of a feeling, and that the feeling we have towards that embodiment is the same feeling which is embodied. This seems very hard to understand; and I am very conscious that I may have misrepresented Mr. Bosanquet's position here. But however that may be, there does appear to be some obscurity about the relations in which the two feelings stand to each other.

(2) I am not quite sure whether the *descriptions* of the æsthetic attitude given in the first lecture are intended to be complete *definitions*, *i.e.*, whether Mr. Bosanquet holds that you can express the whole meaning of the æsthetic attitude, and of beauty, in terms of "feeling," "embodiment," "imagination," etc. But it seems probable that this is what he means; and if so, it is questionable whether he has proved his point. Let it be admitted that a work of art is always the embodiment of a feeling. There remains the possibility that this is not the whole truth about it; that you must add that the feeling is embodied in a certain way, and that this way cannot be further defined than by saying that it is an æsthetically excellent way. No doubt Mr. Bosanquet will hold that it *is* sufficiently defined by saying that the feeling is *adequately* embodied; but I cannot convince myself that this expresses the whole truth. There seems to be left over some unanalysable quality of "rightness," which every embodiment must possess if it is to be beautiful.

(3) It is evident that a feeling or emotion, such as pity or longing, can be expressed in a work of art; most directly perhaps in music. But there are other kinds of art which don't seem to express any emotion of this kind, *e.g.* pure patterns. And with regard to these, there is the same difficulty as was mentioned above, *viz.*, *what* is the feeling embodied in them? It can only, I suppose, be the feeling we have towards them. But surely it is very doubtful that this is what we find in a beautiful object; do we not simply recognise a certain æsthetic "rightness" about it,—"significant form," to use Mr. Clive Bell's expression —and not the embodiment of any feeling we have?

I should be sorry if these remarks were to leave on any one's mind the idea that this book does nothing but raise problems. I have selected for notice only what seem to me the most disputable points, and have been compelled to pass over that far larger portion which I or any one else could only read with admiration. And perhaps it is a little unfair to complain of what Mr. Bosanquet has not done, when he has done so much in compressing his theory into three lectures and expressing it in language comparatively free from technicalities.

But the general impression which the book leaves on one's mind is that while Mr. Bosanquet has certainly stated part of the truth about the æsthetic attitude, and while many of his discussions of particular problems are most illuminating, he has not succeeded in showing that his analysis is a complete one, or that it will cover all forms of the æsthetic attitude.

ALAN DORWARD.

Science of Mechanics. Supplementary Volume. By E. MACH. Open Court Company. Pp. xii, 106.

This very useful little volume consists of two parts. The first contains Mach's additions and alterations for the seventh German edition of the *Science of Mechanics*; the second contains a number of historical notes on the whole book by Mr. Jourdain. The first part brings the English translation up to the date of the latest German edition, while the second gives us additional matter of great value which has been approved by Prof. Mach himself.

Mach's alterations are mainly in consequence of Wohlwill's researches on Gallileo and Duhem's on the history of statics. The result of the two has been to exhibit a more steady and continuous development of mechanics from Greek scientists to modern ones. Thus Duhem discovered a manuscript of Jordanus Nemorarius, or rather a later elabora-

tion called *Liber Jordani de ratione ponderis*, which anticipated in a large measure the theory of moments and of inclined planes. This author may be regarded as a forerunner of Leonardo da Vinci. We are now in possession of rough notes by Leonardo containing many sketches of mechanical principles, some correct and some incorrect. There is further reason to believe that Leonardo's work was known to Cardan and Benedetti, and that through them it influenced Gallileo, Stevinus, Roberval, and Descartes.

We are also now acquainted with earlier works of Gallileo than the *Discorsi* and can see the true notion of constant acceleration developing. Gallileo at first thought that falling bodies were an instance of the law $\frac{dv}{ds} = K$, and that this agreed with all the facts. Later he rejected this in favour of the true law $\frac{dv}{dt} = K$; but his reasons both for his first acceptance and his final rejection of the erroneous law are not cogent. Mach also mentions Gallileo's speculations about the mathematical infinite, which he compares with those of modern mathematicians, classing both as 'mystical'.

Mach has in no way altered his views about absolute and relative motion. He says that probably there will soon be no reputable supporter of absolute motion; it seems curious that he makes no reference to the important chapters in Mr. Russell's *Principles of Mathematics*. They do not indeed appear to me to prove their point, and I believe that Mr. Russell has now altered his views; but at least they would have supplied Mach with a distinguished modern supporter of absolute space, time, and motion. Mach has also altered his former very obscure note about Lange's Inertial System. Unfortunately it still remains obscure to me, and I could have wished that Mr. Jourdain had supplied a supplementary note on this subject. What is meant by one straight line being *warped* with respect to another?

There is also a far clearer statement than before of Mach's much-quoted remark (in connexion with Newton's bucket) that 'the universe is not given to us twice, but only once'. It is now clear that Mach's meaning is that the Ptolemaic and the Copernican view are simply different ways of describing precisely the same set of facts, and that therefore there is no real difference between the bucket standing still with the fixed stars rotating and the bucket rotating with the fixed stars standing still. This is clearly a necessary result of the relative view, and it is one that is often overlooked.

Mr. Jourdain's notes have all his usual accuracy and wealth of historical knowledge. They consist partly of corrections and amplifications of some of Mach's references; partly of remarks on the Principle of Least Action, of which Mr. Jourdain has made a special study; and partly of remarks on the Calculus of Variations. On page 87 in the note on D'Alembert (line three of the note) surely *equalities* is a misprint for *inequalities*.

This volume is bound similarly to the translation of Mach's *Science of Mechanics* and is indispensable to any one who has that work. But why did not the publishers make the supplement of the same height and width as the original? As it is we cannot place the two side by aide on our shelves without a hideous irregularity.

C. D. Broad.

Contributions to the Founding of the Theory of Transfinite Numbers. By Georg Cantor. Translated by P. E. B. Jourdain. Open Court Company. Pp. ix, 208.

Mr. Jourdain and his publishers are deserving of the heartiest thanks from English philosophers and mathematicians for this excellent translation of Cantor's epoch-making articles in the *Mathematische Annalen* between 1895 and 1897. The book appears at a singularly appropriate moment for the refutation of that particular kind of fool who is fond of telling us that the German intellect has made no specially important contributions to knowledge. Perhaps nothing can be much more important to philosophy and mathematics than clear ideas about number, continuity, and infinity; and from the seventeenth century till quite recent years practically all the great contributors—Leibniz, Bolzano, Weierstrass, Dedekind, Schröder, Frege, and Cantor—have been citizens of the Central Powers. This of course is said without prejudice to the extremely valuable work that has been done in the last twenty years in Italy, England, and America; but there is no pressing danger of the work of allies and neutrals being slighted.

About two-fifths of the present volume is taken up with an introduction by Mr. Jourdain, in which he traces the connexion of Cantor's latest view with his earlier work and with that of his predecessors. And at the end he has added a few notes on the development of the subject since Cantor wrote these articles. The main developments have been (*a*) the purely logical definition of number which we owe to Frege and Russell; (*b*) the Schröder-Bernstein theorem; (*c*) Russell's and Whitehead's definitions of arithmetical operations (with a special view to dealing with the products and sums of infinite numbers of factors); (*d*) the rendering explicit of the Multiplicative Axiom; (*e*) the discovery of difficulties such as Burali-Forti's contradiction, and their solution by the Theory of Logical Types.

In the introduction Mr. Jourdain starts with Fourier, and the problems which his development of functions in trigonometrical series raised. The treatment of these problems by Dirichlet led to the theory of functions of a real variable. Cauchy and Weierstrass, on the other hand, developed the theory of functions of a complex variable. Riemann, influenced by both Dirichlet and Cauchy, greatly developed this theory, and Hankel, under the influence of Riemann, was the founder of the independent theory of functions of a real variable. Now Cantor began his work by studying Hankel's memoir, and he applied his own views on irrationals and derivatives of point aggregates to some of Hankel's theorems. Then Cantor developed the theory of point aggregates as an independent subject, and finally in 1882 defined transfinite numbers independently of the particular aggregates with which they first appeared in mathematics.

But Cantor was most strongly influenced by Weierstrass who first pointed out the logical circle involved in any attempt to define irrationals as limits. Weierstrass gave a theory of real numbers which avoided these errors, but he did not offer a satisfactory theory of the nature of integers. To Cantor we owe the proof that the number continuum cannot be put into one—one correlation with the real algebraical numbers; and that continua of many dimensions can be correlated with those of one. We also owe to him the distinction between cardinal powers and ordinal types; the recognition of orders of infinity among infinite powers; the definition of the ordinal type of the continuum; and the laws of arithmetic for transfinite powers and ordinal types.

Mr. Jourdain has stated and proved a good many of Cantor's earlier theorems in the introduction to this book.

The only criticism to be made on this translation is the large number of misprints that have slipped in. *E.g.* on page 48 C^{ν} is a misprint for C_{ν}; on page 88, line 18, M should be $\bar{M}$; on page 76, line 5, we have '$x \geq$ and ≤ 1,' where the meaning appears to be $x \geq 0$ and ≤ 1; on the same page, line 10, Aleph appears for Aleph_0; on page 101, line 6, E appears instead of E^1. There are probably other misprints which I have overlooked.

C. D. Broad.

The Natural Theology of Evolution. By J. N. Shearman. George Allen & Unwin. 10s. 6d. net.

The author of this book believes that the advance of scientific knowledge has strengthened Paley's famous argument that design in nature proves the existence of an intelligent author of nature. In Paley's own day, we are told, it was never doubted "that his argument was convincing," and if it is doubted in our day it is not on account of any weakness in the reasoning but because it is waiting for some one to carry it a step farther, a step rendered necessary by the modern theory of evolution. To this task the author devotes himself.

At the outset however there appears confusion, or at least the neglect of an important distinction. An argument may be sound or unsound, it may be merely defective and incomplete, or it may conceal an actual fallacy. But even if it be sound it is not necessarily convincing, and an unsound argument may carry conviction. For this a psychological and not merely a logical condition is necessary. It is very doubtful if any one in Paley's day or since has been convinced by the argument, though very many then and since have held it to be sound. If however it is not sound its radical defect lies in its statement and not in any failure to push it as far in Paley's day as it can be in ours. Of such a possible defect the author shows himself nowhere conscious, yet this is surely the one thing needful.

The argument is familiar to every one. A man crossing a heath is supposed to find a watch and after considering it to conclude that it is not a chance shape which matter has assumed but an object contrived and fashioned by an intelligent artificer. What leads him to this conclusion? The recognition of design in the object. But there is the same evidence of design in nature and a notable instance is his own bodily organism. Is he not forced, then, from a consideration of the nature and function of his own body to conclude that it also is the work of an intelligent artificer? But the crux of the argument as it affects us is just whether it is recognition of design that leads the man to conclude the watch is the work of an artificer. Suppose the man crossing the heath is a geologist, that what he finds is a chipped flint, and that what he concludes is the existence of a human being in the remote past. What has led him to the conclusion is not design (he may or may not have been interested in that), it is the recognition of characteristic human work. He has observed that man fashions inert matter into tools for his use, and he recognises the flint as a tool so fashioned.

According to the theory of Bergson, in *Creative Evolution*, it is this power of fashioning inert matter into tools for his use which characterises the intellectual mode of man's activity, whereas man himself is not a tool but a user of tools, not a machine but a centre of free living activity.

This argument the author of this book ignores and yet a great part, in fact the main part, of his polemic is directed against Bergson. Indeed, in reading his criticism of Bergson's doctrines, I find it difficult to believe that he can have really comprehended either the meaning of the vital impulse or the reason for rejecting finalism. It is impossible in a short notice to give the ground for such a judgment, but I may instance one conspicuous case of failure to grasp a meaning. In discussing the problem of the evolution of the eye in *Creative Evolution*, Bergson lays emphasis on the fact that notwithstanding a marvellous complexity of structure in the organ, the function is absolutely simple, an indivisible act of vision. This is the author's criticism (p. 235): "The idea seems to be a simple act dividing into a complex structure. But it is impossible to see why the act of vision is called simple, one would think it ought to be called complex." He then goes on to suggest that M. Bergson has confused unity with simplicity, and he evidently thinks that by the simple act of vision Bergson means the unity of the organ of vision.

The book is attractive, not I think on account of its argument but for the delightful illustrations. There are plates and diagrams of the Pecten's eye, the fertilisation of the purple Orchis, the insect traps of the Arum, the Drosera, the Aristolochia, and other favourites. It brings back to the present writer a recollection of his early boyhood some half a century ago, when he read through Paley's *Natural Theology* for the pure joy of the anatomical descriptions.

H. W. C.

What Ought I To Do? By George Trumbull Ladd. New York: Longmans, Green & Co., 1915. Pp. vii, 311.

Prof. Ladd's zeal and industry in his vocation are indefatigable; he must already have more volumes to his name than any living philosophical writer, and still more are promised in the notice which faces the title-page of the little book before us. The work restates, briefly and in a more popular way, the main positions which its author has already adopted in his more elaborate treatises on ethics, from which they will be familiar to students of contemporary American tendencies in philosophy. To comment in detail on the strength and the weaknesses of the author's ethical doctrine would therefore hardly be in place here. Suffice it to say that Prof. Ladd has at any rate shown himself entitled to the honours once claimed by Martineau for moralists who refuse to betray their study to the metaphysician on the one hand or the psychologist on the other. Prof. Ladd really does treat neither of metaphysics nor of psychology, but, as he undertakes to do, of the conduct of life. If his last word on the question he raises by his choice of a title, *viz.*, that we ought to cultivate a rich and coherent personality in ourselves and others, does not quite succeed in furnishing a rule for the direct determination of particular cases of conscience, it is, at any rate, true, and the men of sensitive conscience and fair intelligence will usually know how to apply it. There are one or two points of principle on which I could have wished that the author had been more explicit and made his position a little clearer. The most important is his estimate of the relative value of various personal ends. He asserts very strongly, as I understand him, that the enjoyment of art and science are ethically secondary to the promotion of *moral* personality. I am not at all clear in what *moral* activity is taken to consist, and indeed I think it a defect of the book that it seems to be presumed throughout that an inquirer who does not yet know what he *ought* to do, knows what the word "moral" means so well that no definition is called for. As far as I can make out, though

Prof. Ladd has some excellent pages about the modern tendency to identify morality with fussy preoccupation with "social reform," which often coexists with very defective personal character, what he calls specifically *moral* activity is, after all, sincere philanthropy exhibiting itself in the subordination of one's interests in art and science to the social betterment of the community. If this is his meaning, he seems to me to be placing a very arbitrary restriction on the notion of morality. I am not convinced that "doing good," in the popular sense, is the one specific way of serving the moral ideal, or that it is the first duty of every man. I do not see why we should deny that it is the moral duty of an artist or a metaphysician to be a good artist or metaphysician, and I doubt if it is desirable that the performance of this duty ought to be made secondary to occupation with works of social utility. In fact, it is just in the enjoyment of activities like those of the thinker or artist that the most permanent constituent of the "good" seems to me to lie. Devotion to "social reform" is indispensable because our social arrangements are so bad. But I do not see why men might not create a community in which there were no longer any standing bad institutions to be reformed, and in that case, "social reform," so far as I can see, would cease to be any one's main duty, while the duty of cultivating art and science and enjoying the personal affections would still persist. It is a fair appeal *ad hominem*, since Prof. Ladd accepts the belief in a life to come, to ask whether we shall have to be social reformers in Heaven. The established opinion at least is that in Heaven we *enjoy* ourselves. And it is noteworthy that Christ seems to have been very indifferent to social reform. I think Prof. Ladd is probably biassed by the vehement dislike which he seems to feel for Pleasure. I agree with him altogether in regarding Hedonism as a mistaken theory, but I cannot understand the intemperance of language into which he falls whenever he touches on it. Still less do I understand his summary rejection of "Eudæmonism". Enjoyment is not a synonym for pleasure, as the Hedonist thinks, but when the emphasis is put on the right word, to enjoy one's *self* does seem to me to be the "end of man," and I should call a society in which every member had developed a self which could be thoroughly *enjoyed* and where there were no standing hindrances to the diffusion of such enjoyment throughout the community an ideal state of things. What is wrong with existing societies, I should say, is that owing to defective institutions most of their members do not get the chance of developing a self which they can enjoy, and so are driven to seek for their sources of enjoyment outside themselves (of course to enjoy one's *self* implies delight in one's relations to other persons and things; to love one's neighbour is to enjoy one's self *as* related to the neighbour, etc.). Thus I fancy the animus against "Eudæmonism" is a mere consequence of the crude conception of selves as mutually repellent. My further remarks on the apparent identification of morality with "philanthropy" may arise from mere failure to understand Prof. Ladd. If that is so, I offer my apologies for the misunderstanding, but in the absence of any unambiguous statement on the author's part, I think misunderstanding excusable.

A. E. Taylor.

The Lonely Nietzsche. By Frau Förster-Nietzsche. Translated by Paul V. Cohn. Illustrated. London: William Heinemann, 1915. Pp. xv, 415.

Frau Förster-Nietzsche's second volume relates the story of her famous brother's life from the tragic breach with Wagner after the Bayreuth

performance of 1876 to its melancholy close. It need hardly be said how full of interest this intimate record of Nietzsche's life must be to every student of his works. In particular much light appears to the writer of the present notice to be thrown on some of the obscurer pages of *Zarathustra* by what we are told in this volume of the personal experiences and sufferings of Zarathustra's creator. If a personal impression may be offered in lieu of an elaborate review, such as would hardly be in keeping with the traditional limitations of reviews in MIND, I would say that the reading of Frau Förster-Nietzsche's narative leaves on my mind a sense of the close analogy between the character and life of Nietzsche and those of Shelley. There is the same moral beauty about both characters and the same tragic aloofness from the society of their respective countries and ages. What the *Reichsdeutsche*, as he called them, were to Nietzsche, the English of the generation after Waterloo were to Shelley. Both men were by nature lovers of the same solitudes and the same eternities. If the two could have met, in spite of all superficial differences in their phraseology, each would probably have understood the other better than the world has understood either. Both were manifestly life-long victims of tyrannical "nerves". And, I may add, much that was most painful in the life of both seems to have been due to one cause, each thought himself a much better judge of character than he really was. The story of Nietzsche's suffering as he gradually discovered his illusions about Dr. Rée and Fräulein Salomé reads strangely like one of the many similar episodes in Shelley's career. I am afraid, also, that, judging from the bitterness of tone which the authoress displays in all that she has to say of other associates of Nietzsche, the parallel may extend to a further point. Shelley's memory suffered for years from the fact that the friends who should have united in winning respect for it were divided into coteries, each violently hostile to the other. I hope it may not be so with Nietzsche; there is so much in him that demands admiration, whatever one may think of his theories about life, that it is pitiful to see those who should be united by a common regard for his memory making their accounts of their relations with him into envenomed personal attacks on each other. Frau Förster-Nietzsche is not doing her brother any true service by adopting the hierophantic *procul, o procul, este profani* tone towards all who have written of him in independence of the official inspiration of her *Nietzsche-Archiv* or rated him at a little less than the divine honours he claimed for himself in *Ecce Homo*. If the world is to do justice to his genius, the Nietzsche coterie must give up calling on it to recognise him as a god. No man's reputation can stand this kind of thing, least of all that of a man who was so *all-zu-menschlich* in his weaknesses as the author of the letters which give the present volume its chief interest.

The translator's work has been excellently done, the get-up of the volume is attractive, and one or two of the illustrations call for special praise.

A. E. T.

Modern Philosophy and the Incarnation. By the Rev. O. C. QUICK. London: S.P.C.K., 1915. Pp. 96. 6d. net.

This little book (or super-tract) is extremely good value for the price set upon it, though its main appeal is necessarily to the small section of philosophers who are interested in theology and the still smaller section of theologians who are interested in philosophy. As the readers of Mr. Quick's contributions to MIND will be prepared to find, he is willing to

go to the roots of things and can express his views in lucid, pointed and often epigrammatic language. His argument runs thus. If Religion be defined as the desire for God, and Theology as the expression of the objective truth which its validity implies, Religion becomes Theology the moment it makes assertions about ultimate reality and thereby encounters Philosophy. Philosophy however is too technical, too full of doubts and divisions, to lay down the dogmas which all men need, and so metaphysician and grocer alike must find in a catholic theology the mirror of his soul. Furthermore, since science has shaken man's trust in the adequacy of his faculties, "some theory of Divine revelation is the only remedy for human scepticism. If the man-centred universe has collapsed, a God-centred universe must rise upon its ruin, or man's whole aspiration after universal truth must be pronounced a futility" (p. 31). This revelation is given in the Incarnation which "sets before us the conditions of the perfect union between God and Man" and "becomes the basis of true intellectual freedom" (p. 45). No doubt the Creeds formulate this revelation "in a dress which is confessedly out of date" and was "never intended as a particular philosophic theory of the Incarnation" (p. 53), but they should not be rewritten, because they formulate an eternal truth in terms of a philosophy that was once agreed upon by all. Nowadays however the philosophic world is plunged in "helpless confusion". "There is no accepted medium of exchange for opposed ideas," and the philosophers merely abuse each other (p. 78). Mr. Quick proceeds to show that neither idealistic absolutism nor pragmatism nor the philosophies of M. Bergson and Mr. Bertrand Russell can satisfy the theologian. Finally he propounds, as the only reconciliation possible, a doctrine of faith in revealed truth, which apprehends the reality of a self-revealing God and, while transcending reason, is not hostile to it.

Philosophers are probably not accustomed to such keen criticism from the theological side, and yet Mr. Quick is undeniably a competent critic who knows his way about the philosophic chaos. His account of Pragmatism, for example, is much more accurate and intelligent than the sort of thing which usually does duty among philosophers under this title, and his epigram that for absolutism all doubts are relative to some certainty, whereas pragmatism declares that in fact all certainties are relative to a doubt (p. 66), is both neat and profound. Nevertheless Mr. Quick rejects the Pragmatist theology for reasons that are instructive, if not adequate. It cannot give him the absolute assurance he craves of present contact with an eternal and immutable reality. "It turns the 'venture of faith' into a 'venture of doubt,' and does not yield a "faith which feels itself secure because its foundations are outside itself deep in the rock-bottom of eternity" (p. 82). But is not Mr. Quick demanding more than any theory can conceivably provide? It is easy enough of course to find theories that *claim* to reveal eternal realities and to give absolute 'assurances'; but ought these claims to pass unchallenged? Surely the mere magnitude, audacity or effrontery of a claim is a reason, not for accepting it, but for scrutinising it more closely and testing it more perseveringly. It should lead us to demand not less, but more, verification. It should lead us to ask whether "the faith which feels itself secure because its foundations are outside itself" and anchored to a ground it believes immutable, *is* as secure as it feels itself. Pragmatic logic can admit no truth-claim and no feeling of assurance that claims to be self-sufficing, and will not submit to testing by its consequences. Mr. Quick's belief that an exception can be made in favour of a belief in a reality believed to be absolute, would seem to rest on a misapprehension or confusion. For how can it, *as a belief*, claim exemp-

tion from the fallibility, corrigibility and mutability of human beliefs? How can the fact that it claims to have an eternal *object* redeem it from human frailty? How can the supposed object guarantee its eternal truth? Even if the object really exists, it has to reveal itself to, and through, the fallible mind of a subject, and so the human opinion about it would inevitably become tainted with subjectivity. I am aware of course that Mr. Quick's doctrine is of great antiquity and can claim the authority of Plato and Aristotle, both of whom believed that there existed necessary and intrinsically knowable objects which engendered necessary truths; but no reasons are ever alleged in its favour, and it is plainly incompatible with the existence of *errors* about these necessary objects. So long then as errors are possible in arithmetic and theology it seems impossible to regard this belief as more than a prejudice. Other points also in Mr. Quick's argument seem open to question, such as his conception of theology and dogma in relation to religion, and the sceptical inferences he extracts from science; but his thought is genuine throughout and may be studied with advantage, not only by theologians, but also by philosophers.

F. C. S. SCHILLER.

An Introduction to Experimental Psychology in Relation to Education. By C. W. VALENTINE. London: W. B. Clive. Pp. vii, 194.

This is a useful little book which can be heartily recommended to Training College students, for whom it was primarily written. It aims at showing how a teacher may gain such a practical acquaintance with the methods of psychology as will enable him to examine critically the principles on which his methods of teaching are based, and to take a genuine scientific interest in the mental development of his pupils. It is divided into two parts, the first of which describes the methods of performing some twenty-seven experiments, while the second contains a discussion of the results of these experiments and of their application to school children. The scope of the experiments is indicated by the headings of the chapters: association of ideas, imagery, attention, economical methods of learning, mental types, rote memory tests, the value of a map, rational memory, the improvement of memory, the acquirement of skill, mental fatigue, and tests of intelligence. All except one are forms of experiments described in the larger text-books. The exception is an experiment on the value of a map, the comments on which in the second part of the book lead one to think that it has been introduced merely to show that a map is valuable, and is therefore a pedagogical rather than a psychological experiment.

Estimate of the merit of the selection will vary according to opinion of the relative importance of the various topics of psychology for the practical teacher. About half of the book is devoted to experiments on memory, imagery, and the association of ideas, which probably represents the importance attached to these topics by the average student of education. The experiments have been planned so that they can be performed with no apparatus except such as can be quickly prepared with pen and paper.

The procedure is clearly described: indeed, perhaps too little is left to the general intelligence of the reader: in one place (pp. 52-53) the author puts himself to the unnecessary trouble of repeating two pages of instructions word for word, varying only the material for the experiments.

The connexion between the two parts is in places not so close as it might be. While the second part gives a very clear and concise account

of the topics chosen for discussion, the connexion between this and the experimental results is sometimes not very obvious: this is especially true of the first chapter which is probably the least satisfactory of all. The value of the book would be enhanced if the author made more extensive use of his admirable practice of discussing in the second part the results of his own experiments.

An excellent feature of this useful little work is the numerous references and the short and carefully compiled bibliography.

S. Dawson.

The Musical Faculty: Its Origins and Processes. By William Wallace. London: Macmillan & Co., 1914. Pp. vi, 228.

This book deals with what the author calls 'the mechanism of the musical sense'; its aim is said to be psychological rather than musical, namely, to record in outline the mental processes concerned in the creation and production of music. It is in fact a popular account of the author's reflections on topics such as the development of music (which is attributed to the evolution of the musical faculty), the remarkable interpretative ability of some children (which is attributed to the mimetic faculty), the inheritance of musical ability, the alleged concomitance of musical genius and mental and physical degeneration (which the author denies), auditory imagery, tonal memory, and the inhibition and memory of sounds.

As a study in the psychology of musical ability, it will not commend itself to the professional psychologist because of its failure to grapple with the difficulties of psychological analysis. The author shows an almost complete disregard for technical psychological terminology and naïvely claims to use 'everyday expressions for ordinary occurrences': this, unfortunately, has led him to use also everyday methods of thought about experiences which require for their study all the refinements of scientific procedure. Popular psychological terms are frequently used without any attempt to define their meaning. An excellent example of this is the use of the word 'faculty': all sorts of activities are referred to the operation of faculties—the musical faculty, the creative faculty, the interpretative faculty, the faculties of observation, muscular discrimination and selection, concentration, etc.

In spite of its grave faults and shortcomings as a psychological study, there is much in the book that will commend it to the general reader. It is pleasantly and forcibly written. The chapter in defence of the sanity of musical genius, which is probably the best in the book, is written with much vigour. The author writes most convincingly on those topics which are concerned with the technical aspect of music and with his own profession of medicine.

S. Dawson.

Boon: The Mind of the Race, The Wild Asses of the Devil, and The Last Trump, being a First Selection from the Literary Remains of George Boon, appropriate to the Times, prepared for Publication by Reginald Bliss, with an Ambiguous Introduction by H. G. Wells. London: T. Fisher Unwin, 1915. Pp. 342.

It is by no means easy to conjecture why Mr. Wells should have had recourse to the elaborate mystification indicated in this title, and should have thought it necessary to dissociate himself into the secondary personalities of 'Reginald Bliss' and 'George Boon' in order to divulge his present state of mind. My own guess would be that in face of the

apparently unimpaired and incurable folly and savagery of human nature which the present catastrophe has revealed, Mr. Wells has been assailed by furious doubts affecting his faith in progress and even in the survival of civilisation. To these doubts he has felt himself unable to give expression in his proper literary *persona*, owing to the pan-European convention that it is unpatriotic and treasonable to question the goodness, wisdom and sanity of The War, and because the public for which he writes expects him to write quite otherwise. But in the universal *débâcle* which is upon us he has been tempted to run *amok* a little on his own account, under cover of 'Bliss' and 'Boon' and 'Wilkins,' who are reckless fellows that "can write all sorts of things that Wells could not do," as the preface has it. In form, accordingly, this work is somewhat fragmentary. It abounds in good ideas and good sayings (mostly satirical), flung out with a profusion which bespeaks an heroic disregard for the economising of good copy. The short story of *The Last Trump* is in Mr. Wells's prettiest vein, and might well serve as the text for a philosophic discourse on human blindness to greatness and novelty, inasmuch as "if a thing is sufficiently strange and great no one will perceive it" (p. 334). But there is instruction also elsewhere. We learn, for example, that Mr. Wells does not think much of Bergson, and thinks his "Pragmatism for Ladies" "a poor substitute even for Herbert Spencer"; also that he much prefers William James to his brother Henry. The *persiflage* of the great American Reading Public as an old-maidish 'Aunt Columbia' who invariably disowns her literary offspring, has in it truth enough to be thoroughly annoying. The description of Pragmatism as the "trial thinking" which shows that men are at last assimilating Darwinism, and breaking down "the hard-and-fast line between the scientific and the poetic method" (pp. 214, 215) is sound and well put. Altogether *Boon* may be commended to a philosopher in search of light reading and willing to be persuaded that Mr. Wells is quite the cleverest writer in the country—next to Mr. Bernard Shaw.

F. C. S. Schiller.

The Psychology of the Kaiser. By Morton Prince, LL.D. London: T. Fisher Unwin, 1915. 73 pages. 2s. 6d. net.

The Kaiser's obsession as evidenced by his well-known speeches is a subconscious phobia. It may be described "as a fear of democracy because of the danger to himself and his House of Hohenzollern, a fear of being deprived by the hands of the democracy of his prerogative to be an autocrat". "This does not mean that he is aware of this very personal egoistic or ego-centric fear-sentiment. He undoubtedly would not admit it to others, nor is it likely he could, even is he would, admit it to himself, because it has not been squarely faced, but has been thrust aside, repressed by the pride of his self-regarding sentiments and not allowed to come to the full light of consciousness. Though not recognised by himself it is there all the same, repressed into the subconscious, or, if you prefer, in the background of the mind (which, after all, is a part of the subconscious)."

This portrait of the Kaiser is rather overwhelmed by its Freudian frame. I suppose nothing can be done to remedy this fault so long as most psychopathologists stock only phobia frames. The only point the author fails to express seems to be that the present war is a 'defence-reaction' on the part of the war lord and his hosts! That surely lies behind the 'Moral' appended to the book: "If the Powers of Europe want lasting peace through the overthrow of Autocracy and Militarism,

i.e. Germanism, the obsession of the Kaiser points the way—Look to the Democracy of Germany". Might not we say that by this time the Kaiser and the Fatherland have quite reached the stage of Anæsthesia and Paralysis on the Democratic Limb? What has the Kaiser now to fear from either arm? His right of war is all his own, his left of peace rests on the hilt of his sword.

Received also:—

J. Jolly, *The Birth-time of the World and other Scientific Essays*, T. Fisher Unwin, 1915, pp. xv, 305.

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G. T. Ladd, *What Should I Believe?* Longmans, Green & Co., 1915, pp. xiii, 275.

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G. A. Johnston, *An Introduction to Ethics*, Macmillan & Co., London, 1915, pp. x, 254.

Rev. J. N. Shearman, *The Natural Theology of Evolution*, George Allen & Unwin, London, 1915, pp. xiii, 288.

Arthur de Gobineau, *The Inequality of Human Races*, translated by Adrian Collins, William Heinemann, London, 1915, pp. xv, 218.

Frederick A. Honck, *Our Palace Wonderful*, Hansen & Sons, Chicago, 1915, 2nd edition, pp. 173.

Louis Trenchard More, *The Limitations of Science*, Constable & Co., London, Henry Holt & Co., New York, 1915, pp. 268.

William McDougall, *An Introduction to Social Psychology*, 9th edition, Methuen & Co., pp. xvii, 431.

Rt. Hon. A. J. Balfour, *Theism and Humanism*, being the Gifford Lectures delivered at the University of Glasgow, 1914, Hodder & Stoughton, London, New York, Toronto, 1915, pp. xv, 274.

William Norvin, *Olympiodoros Fra Alexandria Og Hans Commentar til Platons Phaidon*, Gyldendalske Boghandel, Copenhagen and Christiania, 1915, pp. 345.

Rev. J. E. Walter, *Subject and Object*, Johnston & Penney, West Newton, Pa, 1915, pp. 184.

J. A. K. Thomson, *The Greek Tradition*, Essays in the Reconstruction of Ancient Thought, George Allen & Unwin, 1915, pp. xi, 248.

L. T. Hobhouse, *Mind in Evolution*, Macmillan & Co., 1915, pp. x, 469.

M. Maresca, *Le Antinomie dell' Educazione*, Fratelli Bocca, Milano-Roma, 1916, pp. xviii, 155.

Maurice Neeser, *Le Problème de Dieu*, Attinger Frères, Paris, Neuchatel, 1915, pp. 187.

VIII.—PHILOSOPHICAL PERIODICALS.

Journal of Philosophy, Psychology and Scientific Methods. xii., 15. **E. B. Holt.** 'Response and Cognition,' II. [Sketches 'behavioristic' interpretations of the self, attention, feeling and personality, of the type, *e.g.*, that the soul "is the attitude and conduct, *idem est*, the purposes of the body," and counsels the new realists to find "a positive theory of cognition" in "the ways of the patient animal-behaviorist," because in the animals cognition is "simpler and more analysable". Nevertheless it is denied that behaviorism is materialism.] **J. H. Leuba.** 'William James and Immortality.' [Defends James against what the writer regards as the injurious charge of believing in spiritism. But his discussion rests on two assumptions James would hardly have let pass without a challenge, *viz.*, that the rejection of the soul-substance theory "involves either complete annihilation at death or at least the loss of personal identity" and that "the modern belief in immortality is a creation of desire," so that if it be made to seem undesirable "many will undertake the demonstration of its non-existence".]—xii., 16. **W. M. Salter.** 'Nietzsche's Superman.' [A well-written and well-documented study, which disposes *inter alia* of the journalistic delusion that Nietzsche approved of what he calls "this *névrose nationale* from which Europe is sick," and what Mr. Salter calls "the malignant nationalism (on both sides) that has brought on the present war".] **C. W. Cobb.** 'On the Notion of Infinity.' [A pragmatic analysis, which brings out the dependence of the notion on choices, on counting and on the idea of before and after.]—xii., 17. **T. de Laguna.** 'The Logical-Analytic Method in Philosophy.' [An extended review of Bertrand Russell's *Knowledge of the External World*, containing a number of clearly formulated objections and concluding that "this latest phase of Mr. Russell's philosophy is as complete and radical a failure as his ethical theory of a few years ago, which he has now discarded".] **A. H. Jones.** 'The Method of Psychology.' [Argues on 'behaviorist' lines.]—xii., 18. **H. F. Adams.** 'The Relative Importance of Size and Frequency in Forming Associations.' [Experiments to determine what is the best way of advertising: concludes that the full page shown once is the most effective form and one-eighth of a page shown eight times comes second.] **A. Törnudd.** 'Types of Pragmatist Theory of Truth.' [Quite a useful summary.]—xii., 19. **J. Dewey.** 'The Logic of Judgments of Practice,' I. [An important paper, which points out that logic has altogether overlooked the practical judgment, *i.e.*, a proposition relating to *agenda*, things to be done. Its features are: (1) that it implies an incomplete situation, in which (2) it is itself a factor determining (3) that one outcome is better than another. (4) It is simultaneously about ends and means; (5) it demands relevance; (6) its truth or falsity is constituted by the issue; (7) value-judgments are a species of practical judgments which have goods and bads for their subject-matter. (8) Values are not data, but "traits of objects, as entering into a possible and foreseen completing of the situation". Value therefore is not a ready-made existential quality.

Neither is it 'subjective'. It is practical, and the standard of value is formed in the process of practical judgment or valuation. No doubt established standards are used, in so far as past decisions are relevant to the present situation, but "all valuation is in some degree a revaluation" and so *every* judgment is, *pace* Nietzsche, a 'transvaluation'. (9) The logical analysis of the practical judgment thus shows that there is nothing inherently impossible in the pragmatist suggestion that the import of *all* judgments may be some difference to be brought about.] **C. I. Lewis.** 'A Too Brief Set of Postulates for the Algebra of Logic.' [Offers "a most economical set of primitive propositions, from which all the theorems of symbolic logic, all the theorems of cardinal and ordinal arithmetic, of statics and dynamics and of various branches of exact science can immediately be derived".—xii., 20.] **J. Dewey.** 'The Logic of Judgments of Practice,' II. [Deals with the cognitive status of sense-perceptions. They are "forms of practical judgments—propositions as to what to do". Whatever in them does not serve this purpose, at least so as to be initially relevant, is surplusage and *not* cognitive. This is not to say that perceptions are unconscious inferences. The practical function of perceptions leads on to the 'theoretic' observation of objects, and even where propositions are about what *has* happened, they are means of preventing errors in future action. The attempts to construct knowledge from 'primitive' or elementary sense data rests on the confusion, not of offering psychology instead of logic, but of substituting logic for psychology. For 'sensations' are not the primary constituents of perceptions, but final results of their logical analysis. The error of Locke was too much logic and too little psychology, the "erecting of a system of logical distinctions and checks into a mythological natural history".] **C. J. Herrick.** 'Introspection as a Biological Method.' [An incisive protest by a biologist (who is evidently a pragmatist) against 'behaviorism'. "Possibly the new psychology may learn to get along without consciousness; but biology cannot do so, for it is evidently a real factor in at least the higher stages of evolutionary history . . . and the biologist can see no reason why conscious processes should not be observed in the only way open to him, namely, by introspection."] **E. C. Parsons.** "Gregariousness and the Impulse to Classify.' [Gregariousness demands classification for social purposes, and this leads to science.]—xii., 21. **G. Santayana.** 'Philosophical Heresy.' A brilliant paper which argues that all philosophies are heresies of individuals set up against the traditional good sense of mankind which is 'orthodoxy'. There are only two ways for a philosopher to avoid heresy. One is a comprehensive synthesis that would distort nothing, and this has never been achieved. The other to confess one's system a personal work of art and to "substitute the pursuit of sincerity for the pursuit of omniscience". In spite of his excellent precepts Prof. Santayana cannot in the end resist the temptation of representing his own heresy, "the naturalistic conception," as "the plain deliverance of a long and general experience".] **N. Wiener.** 'Is Mathematical Certainty Absolute?' [No: for "there is no need for supposing that even the axioms of (Whitehead and Russell's) *Principia* or any similar set we shall ever come to are not subject to further analysis, and that we have an absolutely adequate knowledge of the meaning of any logical proposition whatever".] **K. Gordon.** 'A Study of an Imagery Test.' [Visual and auditory imagery accompanying the spelling of words. The test is inconclusive because "a person may be a visualiser in the kind of performance which the test represents, but may be something different in other enterprises".]

PHILOSOPHICAL REVIEW. Vol. xxiv., No. 4. **J. Dewey.** 'The Existence of the World as a Problem.' [Holds, against Russell, that the ultimate data of sense-perception are identified and described as limiting elements in a complex world; we never can or do, in actual inquiry, throw the existence of the world into doubt. Such identification of elements helps us to gain knowledge of the world; for what we may properly doubt is the validity of certain customary inferential beliefs about things in it.] **G. A. de Laguna.** 'The Psychological Element'. [Psychology suffers from deep-seated theoretical confusion regarding its own subject-matter, and can become a science only if it accepts, as elements, existents conceived after the analogy of physical entities.] **B. M. Laing.** 'The Metaphysics of Nietzsche's *Immoralism*.' [The conception of organisation unites ideas derived from Schopenhauer and biology; the anti-intellectual, pragmatic, sceptical trend is Heraclitean; the pluralism, perspectivism, optimism suggest Leibniz. The whole construction is new, and significant in relation to the German State.] **G. A. Johnston.** 'The Development of Berkeley's Ethical Theory.' [Berkeley, swinging away from Locke, finds the *summum bonum* in the happiness and general good of all. Had he written systamatically, he might have been the first utilitarian.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.—Vol. xxiv., No. 5. **W. M. Urban.** 'On Intolerables: A Study in the Logic of Valuation.' [Though there are no limits to what sensibility may find tolerable, and though there is no value whose opposite may not be affirmed, there are nevertheless genuine axiological intolerables. Value is, indeed, supported by reality: for if actual volition (and valuation) is the realisation of values in the world of existents, the possibility of such valuation presupposes that reality in its structure does not contradict the essential constitution of values.] **R. M. Mclver.** 'Personality and the Suprapersonal.' [Ultimate values are personal values, and are interrelated. The whole of persons thus constitutes a *sum* of values, in the sense that, if the whole has intrinsic value, every person as such has or is intrinsic value, and also a *system* of values, an extrinsically valuable system of intrinsic values.] **N. K. Smith.** 'Kant's Method of Composing the Critique of Pure Reason.' [Kant uses his stored materials in patchwork fashion, and is led by his open-mindedness into contradictions.] Discussion. **M. W. Calkins.** 'Bertrand Russell on Neo-Realism.' [Russell does not always distinguish logical validity and actual experience; he argues against only the solipsistic form of idealism.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.—Vol. xxiv., No. 6. **A. K. Rogers.** 'The Determination of Human Ends.' [Philosophic as well as practical persuasion has its roots in personal judgments on life that differ in different men. Man's empirical self and his subjective seal of approval are, rather than objective reason or scientific fact, the court of last resort for the philosopher who would understand and unify knowledge and progress.] **H. L. Stewart.** 'Was Plato an Ascetic?' [Approves R. W. Livingstone's view; Plato's predominant mood was so puritanic that we may almost call him a Philistine.] **N. Wilde.** 'The Faith Philosophy of Pierre Charron.' [Charron's pragmatic bent made him an eclectic: he was at once Epicurean and Stoic, Sceptic and Christian. Above all he was the practical man, interested in past philosophy and present science mainly as they bore on life, in this world and in the next. His assertion of the 'right to believe' places him among the forerunners of the philosophers of faith.] Discussion. **A. W. Moore.** 'Pragmatism, Science and Truth.' [Reply to Fite. Pragmatism ignores the 'problem of the independence of truth,' because for it there is no such problem.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

PSYCHOLOGICAL REVIEW. Vol. xxii., No. 3. **L. T. Troland.** 'The Theory and Practice of the Artificial Pupil.' [Describes an artificial pupil, some form of which is necessary whenever the amount of light-energy striking the retina has to be controlled.] **T. V. Moore.** 'The Temporal Relations of Meaning and Imagery.' [Describes reaction-experiments with words (seen and heard), pictures and real objects, of a simple and familiar kind; in general, meaning is reported before imagery. Meaning is thus a definite mental process *sui generis*. Concludes with a polemic against the context-theory of meaning.] **K. Dunlap.** 'The Shortest Perceptible Time-Interval between Two Flashes of Light.' [Reports experiments and Apparatus. The effect of brightness is variable; the limen is, at least over a certain range, lower in light-adaptation; it is also lower for flashes added to a continuous stimulation than for flashes in a dark field; a single flash is often seen as two; practice should possibly extend over more than a year.]—Vol. xxii., No. 4. **L. J. Martin.** 'An Experimental Contribution to the Investigation of the Subconscious.' [The observations of spontaneous images, and their discrimination from images voluntarily aroused, are important for general psychology; and the method of spontaneous images offers a mode of attacking the subconscious which is at least comparable with (if not superior to) the methods usually employed.] **J. E. Downey.** 'Emotional Poetry and the Preference Judgment.' [The group-reaction to emotional poetry is slightly more subjective than that to imaginal. The more emotional subjects are the more variable in judgment. Group-arrangement by beauty correlates well with the average arrangement by group-preference, but is less subjective.] **C. G. Bradford.** 'An Experiment in Association.' [Uses test and key sheets of the Lough association-method. Notes effect of practice and secondary factors. Interference is largely neutralised by transfer of learning.] **H. F. Adams.** 'A Note on the Effect of Rhythm on Memory.' [With 9-digit series, 3-part rhythms are best, non-rhythmic series next, 2-part rhythms worst. With 10-digit series, there is relative fall of the 3-part and rise of the 2-part rhythms. There are sex differences.] **T. H. Haines.** 'Diagnostic Values of Some Performance Tests.' [Trial of supplementary tests with sixty-three girls (morons doubtful, normal) already tested by the Binet and Point Scale methods.] **E. G. Boring.** 'Processes Referred to the Alimentary and Urinary Tracts: a Qualitative Analysis.' [Hunger, thirst, nausea, urination, defecation, and the calls to urination and defecation, while complex and variable experiences, reduce under favourable conditions to various patterns of pressure and pain. Both of these modes may possibly cover a number of qualities.]

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xxvi., No. 2. **J. E. Downey** and **J. E. Anderson.** 'Automatic Writing.' [Experiments on dual activity, such as writing from dictation while reading aloud. Simultaneity of motor reactions occurred, and there is introspective evidence of synchronisation of mental processes; but alternative interpretations are possible. The dual activity rarely approximated normal speed. Lapse of awareness seemed always conditioned upon lack of memory-connexions. The results are thus less clean-cut than those of Solomons and Stein, and indicate that the general problem is extremely complex.] **M. Bentley.** 'The Study of Dreams: a Method adapted to the Seminary.' [Gives an outline form for the analytical study of dreams, and the results obtained from fifty-four dreams thus analysed.] **W. T. Shepherd.** 'Tests on Adaptive Intelligence in Dogs and Cats, as Compared with Adaptive Intelligence in *Rhesus* Monkeys.' [So far as

these tests go, and probably in general, *Rhesus* monkeys are much superior.] **E. F. Mulhall.** 'Experimental Studies in Recall and Recognition.' [The difference between recall and recognition is greatest with materials rich in association.] **T. L. Smith.** 'Note on the Psychology of Shame.' [Shame develops from fear and disgust perhaps from violation of æsthetic feeling and of modesty.] **S. H. Bliss.** 'The Origin of Laughter.' [Laughter is the result of suddenly released repression, the physical sign of subconscious satisfaction.] **E. L. Thorndike.** 'The Form of the Curve of Practice in the Case of Addition.' [The curve for college students approaches a straight slope; the parabolic form found by others may be due to difference in interest.] **L. J. Martin.** 'Ghosts and the Projection of Visual Images.' [Ghosts appear only when there is ability to project images; other factors (emotive, inhibitory) are usually involved.] **E. B. Titchener.** 'Sensation and System.' [Critique of Rahn's 'Relation of Sensation to Other Categories.'] **L. R. Geissler.** 'Sound Localisation under Determined Expectation.' [The normal errors of localisation in a horizontal plane at the level of the ears are enhanced or diminished, by almost a half, by direction of expectation to or from the positions of the stimulus. Under the instruction 'no expectation' the front half is preferred, probably as a result of the dominance of vision in the mental life.] Minor Studies from the Psychological Laboratory of Vassar College. **M. Mould, L. Treadwell** and **M. F. Washburn.** 'XXVII. The Influence of Suppressing Articulation on the Favourable Effect of Distributing Repetitions.' [The advantage of distribution is chiefly concerned with the motor aspect of learning.] **M. Babbitt, M. Woods** and **M. F. Washburn.** 'XXVIII. Affective Sensitiveness to Colours, Tone Intervals and Articulate Sounds.' [Tones are slightly more affective than colours, and both are markedly superior to articulate sounds. There is perhaps a specialised affectivity for tones.] **H. Robbins, D. Smith** and **M. F. Washburn.** 'XXIX. The Influence of Fatigue on Affective Sensitiveness to Colours.' [Affectivity lessens with ennui, and this reduction correlates better with introspection of ennui than does the average affective value of the colours.] **L. N. Garver, J. M. Gleason** and **M. F. Washburn.** 'XXX. The Source of Affective Reactions to Articulate Sounds.' [Only the vowel sounds are directly affective.] **E. B. Titchener** and **H. P. Weld.** 'Minor Studies from the Psychological Laboratory of Cornell University.' **E. J. Gates.** 'XXIII. On Intensive and Qualitative Judgments of Light Sensations.' [Intensive judgments so called are likely to rest upon insistence or power to catch attention.] Book Reviews. Book Notes.

ARCHIVES DE PSYCHOLOGIE. Tome XV., Nos. 1-2. **T. Flournoy.** 'Une mystique moderne: documents pour la psychologie religieuse.' [A woman of fifty, unmarried, Protestant, educated and intellectually gifted, head of a girls' school, showing no pathological symptoms, claiming no supernatural revelations, practising no asceticism, was the subject of a series of mystical experiences, which culminated (March, 1913, to July, 1914) in states of religious ecstasy. Prof. Flournoy was fortunate enough to gain the confidence of this lady, and offers a detailed and well-documented study of her case. He traces her mental history up to the time of appearance of the mystical phenomena; describes a preliminary period, during which she was visited by an 'invisible presence,' a 'spiritual friend'; and then prints, with comments, the subject's own record of the thirty-one 'divine experiences' or states of ecstasy proper. He inclines to find an erotic origin for the ecstatic crises, though that hypothesis has its difficulties; and he notes the influence of the father

throughout the process of sublimation. The crises ceased with a return to extraversion, gradually prepared for, but made definite by the events of 1st August, 1914. The monograph (224 pp.) ends with a non-committal chapter on metaphysical interpretation.] Tome xv., No. 3. **A. Descoeudres.** 'Les tests de Binet-Simon comme mesure du développement des enfants anormaux.' [Consideration of tests in detail; the intellectual quotient affords a good measure of development; the 1911 tests are more difficult than those of 1908.] **P. Ceresole.** 'L'irréductibilité de l'intuition des probabilités et l'existence de propositions mathématiques indémontrables.' [Argues, against Poincaré, that the intuition of probability is a means of knowledge *sui generis*, independent of analysis, and comparable with volition. The impossibility of proving certain definite mathematical properties, affirmed by this intuition, leads to a postulate which cannot be proved, but which is probably satisfied by an infinity of fortuitously numerical series; analysis must therefore be extended or complemented. The parallel between these indemonstrable properties and unpredictable voluntary actions has metaphysical bearings.] **E. Claparède.** 'Expériences sur la mémoire des associations spontanées.' [Spontaneous associations are reproduced far better than prescribed. Mental activity, attitude, attention, familiarity, may all contribute to this result; but the problem is not finally solved.] Recueil de Faits: Documents et Discussions. **R. Weber.** 'Voix et visions.' [In the daytime, visual hallucinations are secondary, auditory primary: we have the inverse of the normal functional predominance of sight by day, hearing by night.] Bibliographie. Notes diverses.

Zeitschrift f. Psychologie. Bd. lxxi., Heft 1 und 2. **K. Lambrecht.** 'Ueber den Einfluss der Verknüpfung von Farbe und Form bei Gedächtnisleistungen.' [In the learning of coloured forms, it is impossible to abstract from the colour and to impress the form alone; identity of colour is of advantage both for recognition and for reproduction.] **K. Groos.** 'Ueber den Aufbau der Systeme'—vi. [The 'vertical' or Platonic dualism is mediated by interposition. In Plato's case, the relation of higher and lower is reciprocal, and the mediation is threefold: logical, teleological, and moral-religious. The three steps tend, however to become many; and the static relation tends to become dynamic; Origen affords a salient example.] **F. E. O. Schultze.** 'Ueber Lernzeiten bei Grösseren Komplexen.' [The memory-prodigy Rückle had stated that the time required for learning increases proportionally to the square of the number of figures learned; and a test shows that this law is, within limits, valid in his case. Discussion is reserved.] Literaturbericht.—Bd. lxxi., Heft 3 und 4. **T. Ziehen.** 'Beitrag zur Lehre vom absoluten Eindruck: nebst Bemerkungen über taktile Längentäuschungen.' [Report of experiments on the comparison of tactual distances (filled and unfilled) and of intensities of noise. Besides giving quantitative results, the author distinguishes five types of 'total impression,' based respectively on comparison with the paired stimulus, with a stimulus of another pair, with a generalised memory-image of earlier stimuli of the series, with images of earlier stimuli not in the series, and with an indeterminate and unidentifiable image. An appendix discusses certain illusions of tactual distance.] Literaturbericht.—Bd. lxxi., Heft 5 und 6. **F. Oetjen.** 'Die Bedeutung der Orientierung des Lesestoffes für das Lesen und der Orientierung von sinnlosen Formen für das Wiedererkennen derselben.' [Sets out from Müller's three systems of reference: body, head, and eyes. Letters and forms are both characterised by their relation to the eye-system rather than by that to the body-system, though the latter

orientation is not without significance.] **W. Baade.** 'Aufgaben und Begriff einer "darstellenden Psychologie".' [Current dissatisfaction with experimental psychology rests in part upon its failure to 'exhibit' mental experiences. This exhibition (which is not description) can be secured on the basis of experiment; sometimes by mere direction of attention (*e.g.*, sensations), but in other cases only by special means. Further articles are promised.] Sammelreferate. **A. Wallenberg.** 'Fortschritte der Anatomie des Zentralnervensystems in den Jahren 1911 und 1912.' **M. Ettlinger.** 'Tierpsychologie: vierter Sammelbericht.' Literaturbericht.—Bd. lxxii., Heft 1 und 2. **W. Koehler.** 'Akustische Untersuchungen'—iii. [The author distinguishes tonal pitch from tonal body (brightness and darkness *plus* vocality); and his present paper may be described as a many-sided protest against the autocracy of pitch. (1) Very high, very low, very short 'tones' have no pitch. (2) The extremely unmusical have no sense of pitch; they are sensitive to tonal body. (3) The vast majority of auditory experiences are 'noises'; and noise does not possess pitch. (4) Natural speech has no pitch; words are properly noises. (5) Even in music, pitch plays a lesser part than is thought: for the compound tone and the chord are, normally, perceptive wholes of one single pitch, not of a plurality of pitches. (6) Absolute tonal memory in its commonest form is absolute memory, not of pitch, but of tonal body. (7) The correlation of pitch with its normal stimulus may be disturbed, while tonal body remains unaffected (normal and pathological cases). (8) Pitchless sounds possess brightness; usually vocality (in the wider sense); in special cases the *r*-quality (roughness) and the explosive character. (9) Since there is no ground to assume more than one sound-receptive organ, we must regard the ear as primarily noise-perceiving and only secondarily as pitch-perceiving; our whole perspective is thus changed.—Radical as these conclusions are, the paper brings many illustrations and much serious argument to their support; a physiological theory is outlined as working hypothesis.]—Bd. lxxii., Hett 3 und 4. **A. Korte.** 'Beiträge zur Psychologie der Gestalt- und Bewegungserlebnisse, herausgegeben von K. Koffka. ii. Kinematoskopische Untersuchungen.' [If two luminous strips are exposed in succession tachistoscopically, we see, under certain conditions, not a movement from the first to the second, but a counter-movement from the second to the first; the essential factor is an increased insistence (*Eindringlichkeit*) of the second stimulus. The quantitative dependences of the phenomenon are worked out in detail, and explanation is attempted on Wertheimer's lines.] Literaturbericht. **P. Schilder.** 'Entgegnung.' **K. Koffka.** 'Bemerkung hierzu.' [Apropos of a review of Schilder's 'Ueber autokinetische Empfindungen.']—Bd. lxxii., Heft 5 und 6. **A. Fischer.** 'Weitere Versuche über das Wiedererkennen.' [Experiments with point-forms (which in certain cases may usefully replace meaningless syllables), and with meaningless syllables themselves, show that a very slight amount of subliminal reproduction is probably necessary, certainly advantageous, to direct recognition.] **R. Hohenemser.** 'Ueber Konkordanz und Diskordanz.' [The controversy between Stumpf and Riemann falls to the ground if we suppose that music rendered in equal temperament is heard in pure intonation. The hypothesis is probable; the psychological problem remains.] **R. Hennig.** 'Eine unerklärte optische Täuschung.' [The stakes and spaces of a vertical paling, seen through a similar paling, are greatly enlarged.] Literaturbericht.

Archiv für die Gesamte Psychologie. Bd. xxxiv., Heft 2. **G. Stoerring.** 'Ernst Meumann.' [Appreciation with portrait.] **A. Messer.** 'Zur Wertpsychologie.' [Disputes Häring's conclusion that

all valuation is a subsumption under pre-existing values; finds in the direct personal conviction of value a bridge between value-theory and psychology; discusses the classification of values.] **E. Becher.** 'Ueber Schmerzqualitäten.' [Distinguishes a bright superficial from a dull deep-seated pain. The former is uniform in quality save in a few localities (external auditory meatus, dentin, glans penis).] **K. Duerr.** 'Ist es wahr, dass $2 \times 2 = 4$ ist? Eine experimentelle Untersuchung von Fred. Bon; Erster Band: Von den Begriffen, den Urteilen, und der Wahrheit.' [Analysis, with running commentary, of Bon's book.] **S. Bernfeld.** 'Zur Psychologie der Unmusikalischen; nebst Bemerkungen über Psychologie und Psychanalyse.' [Lack of musical ability may derive not only from psychophysical disposition, want of attention, etc., but also from an emotional inhibition in childhood. Report of two cases, with psychanalysis.] **W. Heinitz.** 'Experimentelle Untersuchungen über musikalische Reproduktion.' [Preliminary report on the reproduction of simplest musical themes (variously presented) by voice, whistling, piano, violin, flute; five observers of diverse musical training and ability took part in the experiments.] **J. Wittman.** 'Neuer objektiver Nachweis von Differenztönen erster und höherer Ordnung.' [Demonstration of Differential tones of various orders by means of Appunn's reeds, sensitive flame-apparatus, and Samojloff disc. The tones are not independent, but imply the simultaneous existence of their components; those of the higher orders are dependent, mainly if not wholly, on overtones; their place of origin is left undetermined. Helmholtz' theory of audition must be replaced by some such notion as that of Ewald's sound-patterns.] 'Bemerkung zu der Abhandlung von Arthur Macdonald "Die geistige Betätigung der Völker und antisoziale Erscheinungen".'

"Scientia" (Rivista di Scienza). Vol. xvii., No. 4, April, 1915 (*continued*). **J. W. Gregory.** 'The reported progressive desiccation of the Earth.' [In recent years we have been often warned that a great climatic change is carrying the world slowly and irresistibly towards world-wide drought. However, though it seems indubitable that there have been great local variations in post-glacial climate, the author fails to recognise any clear evidence of world-wide desiccation at any time, or even of serious widespread desiccation within historic times. Any world-wide reduction in rainfall is improbable. All the facts can be explained by changes in local distribution of the rain.] The Inquiry upon the War. **N. Kostyleff.** 'Les facteurs psychologiques de la guerre actuelle.' [Attempts to find the psychological factors of this war. The most important of these factors is shown in a paper on the historical premisses of modern warfare which Friedrich Lenz published in Germany in 1912. This sober economist actually still considered war as a natural means of expansion. Neither Frenchmen, Englishmen, nor even Russians think this nowadays. After the war we must guard against trying to enrich ourselves at the expense of the enemy. The psychical defect of which we wish to cure Germany is contagious, and we must take care not to fall into the same error as Bulgaria did after the Balkan war. A wonderfully broad-minded article.] **L. M. Hartmann.** 'Über die Ursachen des Weltkrieges.' [This and the following article both try to discover the powerful forces which brought about the war. The first cause is commercial policy, and the mercantile state. This state is, above all, England, and Edward VII.'s policy of forming an *entente* with France and Russia against Germany is condemned as commercial. The second factor is Russia, who, by her policy of intervention in favour of Servia, has transformed a local conflict into a world-wide war.] **L.**

Brentano. 'Die Letzten Ursachen des gegenwärtigen Krieges.' [In this article the personal intervention of Edward VII. is explicitly put into the background. The deep causes are: the aim of Russia to become mistress, by way of the Balkans, of the Mediterranean, and to destroy the culture of Western Europe; and the claim of ages of Great Britain to absolute maritime domination. As concerns Germany, she had no need to fight for colonies or other possessions; what Germany needs is a free arena for the development of the strength of her people. Germany is fighting against England for the freedom of Europe as well as of herself, and is also fighting for Europe in guarding its civilisation against Russia, 'who is a resolute foe of this civilisation'.] Book Reviews. Review of Reviews. Chronicle. Supplement containing French translations of the Italian, English and German articles.—Vol. xvii., No. 5, May, 1915. **M. P. Rudzki.** 'Les théories les plus récentes sur l'origine des continents.' [This article is an exposition of the current theories of the origin of continents, as a history of these ideas would require too long an article.] **E. Carnevale.** 'Democrazia e giustizia penale. Parte I^{a}: Democrazia e attitudine mentale al giudizio.' [A democratic judge by all means, but he must be an expert in law.] The Inquiry upon the War. **P. Vinogradoff.** 'The Causes of the War.' ['It is worth while to look somewhat closer into the motives and causes which have brought on the present Armageddon, in order to provide, if possible, against its recurrence.' The Austrian ultimatum to Serbia which set the stone rolling was a deliberate provocation. 'Nevertheless, under the influence of the Western Powers, more especially of Great Britain, Serbia and Russia went almost beyond the limits of endurance: they conceded all Austrian demands except that of an Austrian Inquisition in Belgrade. When all the attempts at conciliation had failed and the partial mobilisation of the Russian Army took place, the latter did not preclude the localisation of the conflict, but only the slaughtering of a small State by a Great Power. The German assertion that mediation would have been possible if Russia had not mobilised cannot be regarded as anything but a hypocritical pretence, because there would have been no object for mediation if the cause of dispute were ruled out by a preliminary crushing of Serbia.' An inquiry into the causes of the war 'cannot be conducted with profit, if we take abstraction of people's feelings and passions; any attempt to solve the problem by estimating only the bearing of material conditions and supposed interests is bound to be inadequate'. But 'it is advisable, however, to start from the more obvious material causes of the conflict. Apart from the complication brought about in the case of France by the open sore of Alsace-Lorraine, the immediate causes of the war may be grouped along two lines of conflict: the opposition between Austria and Russia in the East and the opposition between Germany and England in the West.' The antagonism of Germany with England was brought about (i.) by Germany's striving to build up a World-Empire of the same kind as the one acquired by England; (ii.) by economic competition with Great Britain. But 'economic competition in itself—and this must be stated emphatically—does not suffice to justify a tremendous war, especially in the concrete setting in which the war has broken out. In spite of the superiority of the British military Navy, the Germans had every opportunity for developing their world commerce, and they used these opportunities to the best advantage.' In the case of Russia, the economic factor did not play a decisive part: war was brought on by (i.) the German wish to make war in order to prevent a conflict in the future under less favourable conditions; (ii.) the racial antagonism between Teuton and Slav. 'The nationalities cannot and ought not to be prevented from developing their cultural peculiarities and seeking their own salvation, but in the settlement of boundaries of reconstructed

Europe it will never be possible to carve States merely and entirely on the national pattern.' The author does not feel very sanguine either as to the introduction of democratic control as the leading principle of future diplomacy or as to a very stable equilibrium in European politics: 'As for democratic control, the expression seems a prospective anachronism, if I may be allowed to use the word. No means have been discovered yet to render unnecessary secret information, confidential negotiations and the concentration of leadership in a few hands in international affairs. Undoubtedly, the official or unofficial leaders will have to reckon more and more with the moods, interests and prejudices of popular masses, as the captain of a ship has to reckon with winds and currents. But it would be a strange device to solve the problems of navigation by entrusting the ship to winds and currents. The history of the present outbreak is the most convincing proof, if a proof were needed, of the short range of sight of great sections of public opinion and of the practical inanity of democratic control. The leading representatives of the party responsible for government in Great Britain clamoured for neutrality and abstention at a time when a crafty opponent was preparing a complete overthrow of the European system on which the existence of their country depended, and it is not their sagacity that saved them from the trap laid for them. By all means let literature, journalism and democracy discuss and influence the *aims* of national policy, but they had better not tamper too much with the *means* likely to lead to a realisation of these aims.'] **J. Andrassy.** 'Weltkrieg und Weltfreiheit.' [This is a remarkably broad-minded article: the author is a former statesman of Hungary. 'It is beyond doubt that this war can disturb the equilibrium of civilisation for a certain time; . . . it is not only the victory of the Germans that might bring this about: that of the *Entente* would have no better effect.' England has often acted up to the ideals of Treitschke. Russia and England are both, in different ways, enemies of liberty. 'The victory of the *Entente* would not settle the question of European equilibrium—and that seems the one consolation of neutrals who can see farther than the immediate future.'] **W. L. de Jaworski.** 'La guerre actuelle au point de vue de la question polonaise.' [Russia is the only enemy of the Polish nation; and it is a great grief for Poland to see its old friend France as an enemy. The author is in a position to state that, with the agreement of the Austro-Hungarian government, the Polish legions are only to fight against Russia.] Critical Note. **F. Enriques.** 'La connaissance historique et la connaissance scientifique dans la critique de Enrico De Michelis.' [On E. De Michelis's *Il problema delle scienza storiche* (Turin, 1915).] Book Reviews. Review of Reviews. [Accounts of some of those articles in the periodical press of all nations which are addressed to men of science and the cultivated public, and appeal to the reason rather than the imagination. It is a fairly common characteristic of all the nations engaged to throw the blame of the causes on the shoulders of other nations.] Chronicle. French translations of the Italian, English, and German articles. Index to vol. xvii.—Second Series. Vol. xviii. Part 1. June and July, 1915. With this number of *Scientia* closes the inquiry on the causes of the war. However, there will in future be, in addition to the usual work of *Scientia* as an organ of scientific synthesis and organisation, discussions of various problems raised by the war and which have an interest for the whole world. A second series begins with the present number, and, since the responsibility is not only scientific but also political, which cannot be divided amongst several editors, Eugenio Rignano alone will be editor in future. **G. Bohn.** 'Idées nouvelles sur l'adaptation et l'évolution. Ière Partie: Les désharmonies des êtres vivants.' [For too long a time the biologists, following the metaphysicians, made something particular and proper only to life,

adaptation and considerations on ends, enter to explain the supposed harmonies and perfections of living creatures.] The Inquiry upon the War. **L. Havet.** 'D'une guerre à l'autre.' [The public letter which Renan addressed to Strauss in 1870 contains some prophetic utterances. The alliances of France date from after 1870, and 1870 explains them. The present war is a renewal of the old conflict on a much larger scale. The present war is concerned with France's combat for and on behalf of Alsace-Lorraine, and indeed all the three great Allies are fighting for weaker countries: Britain for Belgium and Russia for Serbia.] **J. H. Rose.** 'The War and Nationality.' [The history of Europe during the past century has been in the main the history of the struggles of nations towards a fuller realisation of their existence. The most marked recent instance of the subjection of a nation in spite of itself and even in spite of protests from individuals in the conquering nation against the absorption of alien and resisting elements is that of Alsace-Lorraine in 1871. In the Balkan Peninsula also, the trouble sprang from racial and religious rivalries. 'All the talk about Russian intrigues in the Balkans and Serb attempts to overthrow the Dual Monarchy is futile. The real sinners are the bureaucrats who have sought to stamp out nationality. Ever since the time of Mazzini (who taught that nationality is sacred) all such efforts have increased the strength of national sentiment. In succession, Alsace-Lorraine, Schleswig, Posen, Bulgaria, Serbia, Greece, Albania, Trieste and the Trentino have testified to the truth of Mazzini's prophecy, that the future lay with the free peoples, and that their sense of nationhood was a God-given instinct which must be respected by rulers and cherished by its possessors—cherished not for selfish purposes, but in order that the peoples, living their full life, might contribute more richly towards the perfecting of the life of humanity as a whole. This lofty creed has inspired thinkers among the oppressed peoples to struggle on behalf of their freedom and unity. Even politicians who move on a lower plane of thought have caught some of the glow reflected from Mazzini's teaching. Hence their efforts for their peoples have displayed a heroism never known in merely selfish movements. Hence, too, it is that the Serbs and Montenegrins have maintained an unconquerable bravery and persistence, even after the previous exhausting efforts against Turkey. They know that Austria (backed by Germany) is a more deadly foe than the Moslem; that the two Germanic Empires are fighting to force their way through to Salonica—and then, good-bye to all hope of a free Balkan Peninsula.' It is interesting that, before Italy declared war on Austria, the author wrote: 'Will Italy stand by and witness unmoved the triumph of a commercial imperialism which will dominate all States from the North Sea to the Persian Gulf? Or will Italy side with the Powers of the Triple Entente, which are resisting the absorption of Belgium (and eventually Holland) by Germany, and of Serbia and other Balkan States by Austria-Hungary?' Germans, swollen with pride and ambition, 'have now sought to conquer Belgium, while their Allies, Austria and Turkey, seek to dominate the Balkan Peninsula and the Near East. Thus, the Triple Alliance (Turkey taking the place happily vacated by Italy) wages offensive warfare against the same potent instinct which doubled the strength of Prussia in 1866 and 1870. . . . The study of modern history has convinced me that the claims of nationality must be met during the present age, when that instinct is all-powerful. In the future, let us hope, they will be less potent than that wider and nobler principle which urges that nations shall subordinate their feelings and interests to those of humanity at large. But in these years when the reactionary policy of the present Triple Alliance has reawakened national antipathies and aspirations, nationality is the preponderating impulse.']

IX.—NOTES AND NEWS.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—THE PLOT OF PLATO'S *REPUBLIC*.

(*Continued from page* 82.)

By P. S. Burrell.

IV.

The next part of the dialogue of which the dramatic value is to be determined, together with its importance in the evolution of the plot, is the restatement of the moral problem by Glaucon and Adeimantus at the beginning of Book II. According to the usual method, by which critics are wiser about the composition of literary works than their authors themselves, and in accordance with the common disinclination to believe that Plato means what he says, the usual 'first division,' as Jowett calls it, of the *Republic* is placed at 369 B. The reason for putting the break there is apparently because Socrates begins at that point what is called the constructive or dogmatic part of the dialogue by describing the development of the ideal State, in which justice is to be sought and discovered. This, however, is to defy Plato, who deliberately puts the break at the end of Book I., which he calls the "prelude".

If we try to follow Plato's guidance in regard to the articulation of the plot, we cannot help seeing that the end of Book I. marks the real division. In that book, as in a prologue to a play, warring opinions and principles make their appearance, and have so to speak a preliminary skirmish; and thus the reader acquires a certain familiarity with and interest in the problems which must be faced before they can be settled. But it serves another purpose also, namely that of showing, according to true Socratic principles, that

the only path to knowledge is the consciousness of ignorance. Polemarchus is honest enough to confess his ignorance; Thrasymachus, beaten at every passage of arms, is clearly in the same mental condition, though he is too proud to confess it, and finally, Socrates, who has been victorious all along the line, with a superb irony acknowledges his own ignorance also, especially about the vital matter of the definition of justice. "For when I do not know what justice is," he says, "I am hardly likely to know whether it be a virtue or not or whether he that possesses it is happy or unhappy." Socrates cannot be satisfied with a debate which has been largely polemical and directed chiefly against inadequate or erroneous theories, and he reminds the company that the problem cannot be really tackled until they get back to their original question, "What is justice?" It will not do, he seems to say, to be driving at practice too soon, and rush off too soon to discuss the relative advantages and disadvantages of justice and injustice. On the contrary, the theoretical inquiry is the indispensable preliminary, without which the other dishes, in Plato's phrase, will not satisfy at the feast of reason. And yet again the theoretical question is much more likely to be tackled in real earnest, when the supreme practical importance of the matter is realised. This essential connexion between theory and practice, of which no one was more conscious than Socrates and Plato, is brought out in the first part of Book II.

It is in the light, therefore, of the instructive preliminary discussion that Glaucon and Adeimantus restate the moral problem and do so as vehemently as they can. In Gomperz's phrase, "they give it exact formulation". They gather up the threads of the previous discussion, formulate the case for injustice, more brilliantly, surely, than it has ever been set forth before or since, and thus give Socrates the task of overthrowing the most extreme position which it is possible to take up. In their hands, the problem becomes a universal issue, no longer a mere theme for dialectical argument or eristic debate. It becomes a problem which every man must face for himself—a choice between good and evil. The choice was difficult just because the struggle was so real, because evil was definitely held up as a good, as an ideal, by the sophists. When this point is grasped, it is difficult to understand Gomperz's view of the portraiture of Thrasymachus, especially as it is inconsistent with his correct recognition of the formulation of the sophistic position by Glaucon and Adeimantus.

"It is impossible," he writes, "that a man who followed the calling of an orator in a democratically ordered commonwealth and who de-

pended on the favour of public opinion, should ever have spoken in such a tone about tyranny or the overthrow of the rule of law." . . . "The causes of Plato's bitterness are a secret we cannot penetrate." The chief point is this: Plato needed a foil for the doctrine enounced by Socrates and thought himself at liberty to put forward the rhetorician in question to combat the main thesis of the *Republic*, "justice makes the just man happy".[1]

One might as well explain the Pharisees as a necessary foil to "the voice crying in the wilderness"! When it is remembered that similar cynicism is combated in the *Gorgias*, and that Athens had herself practised the sophistic doctrine in her treatment of Melos, it seems to be as clear as daylight that Plato was not amusing himself by constructing an imaginary foil for Socrates, but that justice was in real distress, and that Socrates was doing his best to come to its rescue.

But to pass on. It has been said that the dramatic element in the *Republic* diminishes as the dialogue proceeds. Mr. Lindsay, for instance, speaks of Books II.-IV. as "less dramatic" than Book I., "because we have in these books Plato's development of Socratic teaching".[2] The reason for making this allegation is presumably because the personal element, the charcterisation, the little touches of time, place and demeanour, *e.g.*, the ferocity, the blushing and the perspiration of Thrasymachus are wanting in these books. This may be so or not. But surely there is a deeper sense than this in which the dialogue can be dramatic. If Jowett means literally his remark that "nowhere else than in the *Republic* is there more dramatic power," he must mean drama in some profounder sense than either of the two ways in which Plato might be dramatic according to Mr. Lindsay, *viz.*, (1) by showing "what Socrates was like, what he thought and how he taught,"[3] *i.e.*, giving a dramatic representation of "the historical Socrates," or (2) by expressing certain views of his own in contrast with other views and "putting them into the mouth of Socrates and his companions" after the manner of Berkeley or Hume.[4] Mr. Lindsay says that Plato does neither the one nor the other. Here opinions may differ, for it could surely be hard to find the sophistic theory of morality stated with greater force, or a more vivid analysis of its effect on the young educated mind. Nor are the irony and the humour of Socrates, to some minds at least, less delicate and keen in the later books than in the first. But Mr. Lindsay says, "it becomes a dialogue which conveys only Plato's teaching". How then are we to reconcile the view that from Book II. to the end is

[1] *Greek Thinkers*, iii., 59. [2] *Op. cit.*, p. xiv. [3] *Ibid.*, p. xii.
[4] *Op. cit.*, p. xiii.

practically a dogmatic treatise with the view that the dialogue shows Plato's dramatic power at its highest?

The reconciliation is really a very simple matter. We have only to look on the *Republic* as a mime or drama "which holds the mirror up to nature," *i.e.*, as a faithful reflexion of the moral consciousness and its problems, in the commonsense way, without any narrow preconceived views of the nature of dramatic dialogue. Surely the essence of drama is that, as Aristotle said long ago, it is a μίμησις, a representation or reflexion of human life, and the value of any particular dramatic piece consists just in the fidelity and accuracy of the picture, in its realism and close relation to human life. It is accordingly a representation of human action, of human happiness and unhappiness, to quote Aristotle again. Now the modern drama—that which is intended for acting on the stage—usually involves events, incidents and movement, belongs in fact to the temporal order. The characters, unlike the interlocutors in Platonic dialogues, do a good deal more than sit and talk. The same may be said in a lesser degree of the statuesque classical drama of antiquity. From this point of view the epithet 'dramatic' seems at first sight inappropriate to Books II.-X. But this is only a superficial view. In human life words mean ideas, and ideas mean action. Indeed words often *are* actions; and a dialogue may be expressive of the most intense moral action. For wills may struggle and conquer no less in debate than in outward conflict. This is especially true of a developed state of civilisation and was certainly true of Athens in Plato's age, where, as Nettleship has remarked, men were extraordinarily susceptible to the influence of words and ideas. They were, therefore, much more prone to suit the action to the word, to translate theory into practice, than the phlegmatic Teuton, for example, who can jog along quite comfortably with his creed and conduct apparently in open conflict. Hence also the importance of holding the right theory. Accordingly we observe that in Athenian drama in several plays the characters talk rather than act. Prometheus Vinctus talks all the time, chained in one position to a rock; and yet there is no lack of dramatic flavour in the play, because the warfare of wills between him and his tormentor is so intense. Similarly, in the *Œdipus Rex* the interest lies not so much in what the actors do, as in the discovery of what they have done, and in the effects thereby produced on their minds and conduct. Œdipus's weal or woe depends absolutely on what is said, provided it can be substantiated, depends in fact on the

truth of a particular theory, just as does the happiness or misery of the young man whose moral perplexity is so vividly portrayed by Adeimantus. It is in this sense that the *Republic* is dramatic. It represents the wrestle between the principles of good and evil, in which, to use Plato's figure, Socrates 'gets to grips' with injustice. No man was more intensely convinced than Plato of the power of ideas over action, of the causal connexion between creed and conduct, theory and practice, and consequently of the paramount importance of correct theory. It is a belief which underlies all the dialogues, and, as it happens, is expressed with great directness and force in the *Republic* itself, particularly in the section now under discussion (*vide e.g.*, pp. 344 E, 364-366, etc.). To quote only one passage: "Still, if we would be happy, this is the path we must follow. The tracks of the argument point this way" (p. 365).

The great difference between Plato and indeed Greek philosophy generally, and most modern moral philosophy, at any rate until recent times, is that it did regard philosophy as a serious practical matter and not merely as a curious speculation. Philosophy meant very definitely a way of life and not merely a speculative system. Hence all through there is the sense of an actual conflict of ideals, and from this point of view it took the place of religion. In contrast with this, most other moral philosophy has been more or less academic. Since the close of the classic Greek philosophy, and no doubt largely as the result of the influence of Christianity, there has been a pretty general agreement about the moral standard, the moral ideal. The differences have turned largely on the correct interpretation of the facts of the moral consciousness and the correct investigation of the origin of moral distinctions. That is perhaps why modern moral philosophy is so often flat and dull compared with other literature, so regularly untouched by emotion. But in Plato's day things were different. There was a real struggle between ideals—a real dispute as to the facts of the moral consciousness; a genuine doubt as to whether there was really and truly any such thing as morality, as commonly understood. Justice by no means always came off the conqueror in the popular estimation, as the actions of the τύραννος πόλις, and the atrocities of the Corcyræan and other revolutions, showed in rather lurid colours. In such times, as Thucydides has pointed out, there occurred a very drastic 'transvaluation of values,' and moral qualities got called by quite other names. Justice and injustice, in fact, were contending with one another in the market-place, the law courts and the assembly.

Authorities differed profoundly not merely as to the right explanation of accepted moral judgments, but as to whether there was really such a thing as a moral judgment properly so called. The question was not, "This or that being accepted as good, on what hypothesis is it to be explained?" but "What *is* good?" "What do we really mean by good? Is it something forced upon us, which would never be spontaneously sought after," or "is it pure unadulterated selfishness, which we all naturally seek to satisfy?"[1] Is it the best thing for a man "to steal anything he wished from the very market-place with impunity, to enter men's houses and have intercourse with whom he would, to kill or set free whomsoever he pleased, in short to walk among men as a god?"[2] Or is it something quite different? It was because Plato and Socrates were face to face with such fundamental questions as these, and had to ask themselves, "What do we really mean by the best or divine life?" taking nothing for granted, that makes them so pre-eminent in moral philosophy. When you have not merely to justify a theory like a professor in his study, but to maintain a standard for your own sake and for humanity, you have to do the thing more earnestly, more realistically and with a deeper sense of responsibility. In other words you approach the subject as an interested partaker in the struggle, and as a possible victim, if you do not win.[3] This at all events is the impression produced all through by the attitude of Socrates.

The drama in the *Republic*, then, is a representation of what goes on in man's soul—in Plato's own language—of what power the opposing principles of justice and injustice have in man's soul, "that makes the one in itself and for itself good and the other bad" (p. 367), and the interest lies in seeing which comes out on the top. He was not merely thinking of the facts and people of his own time, but he was trying to represent a struggle which is universal, and to find a solution which is universal. His work is essentially concerned with universal realities, the εἴδη of justice and injustice and their implicates. As such it is a drama, which is more philosophical and of "a higher seriousness" (σπουδαιότερον) than history or biographical portraiture, to which so many critics in their obsession for "the historical Socrates" have tried to reduce it. So much it was necessary to say on the dramatic form and value of the restatement of the

[1] *Cf. Rep.*, pp. 359, 360. [2] *Repub.*, II., p. 360, Lindsay's Trans.

[3] Similarly, it might be suggested that the reality and depth of Plato's logic and metaphysics are due to the fact that he had to find justification for the right *to speak* instead of merely pointing with or moving the finger, after the fashion of his early associate, the Heraclitean Cratylus.

problem by Glaucon and Adeimantus. Let us now consider the bearings of its content.

In the first place, it expresses the consciousness that the sophistic theory has not been well put and that, though it has been overthrown as represented in the version of Thrasymachus, it can be stated more forcibly and more systematically. Hence Socrates has only produced "the appearance of conviction" (p. 357). Thrasymachus is declared to have yielded sooner than he need. The suggestion seems to be that both sides to the debate must abandon the *rôle* of merely destructive criticism. If the struggle is to be fairly fought out to a finish, each side must produce a constructive theory, must start from positive principles, must produce an adequate *ὑπόθεσις*. Accordingly, Glaucon formulates systematically the sophistic doctrine of morals, by way of showing what is wanted. He "renews" the argument of Thrasymachus (p. 358), and thereby advances the development of the plot.

In the second place, it plainly indicates the direction in which the solution to the problem whether to be just or unjust is to be found, and thereby indicates the principle or *ὑπόθεσις* on which a true account of the matter must be based. It brings into emphatic prominence the conception of good, and makes it quite clear that the relation of justice to goodness must be settled, if the problem is to be adequately handled. Thus we have the classification of *good things*, the difference between what is freely chosen as *good*, and that which is adopted as forced upon a man against his will (*ὡς ἀναγκαῖον ἀλλ' οὐχ' ὡς ἀγαθόν*, p. 358), the question whether justice is *better* than injustice, the theory that "the satisfaction of *πλεονεξία* is the object which every creature naturally pursues as its good" (*ὃ πᾶσα φύσις διώκειν πέφυκεν ὡς ἀγαθόν*, p. 359), the need of showing what is the effect of justice and injustice on the soul, which makes the one *good* and the other evil. The whole section is, in fact, permeated with the idea of the good, and is devoted to expressing the *ἀπορία*,—which is fundamental to ethics—"What is the good by nature (*φύσει*) or in reality?" It crystallises that which underlay several of the arguments of the previous book, that the real object of inquiry was something good, or profitable, how to fare well, how to make the best of life. It seems to afford a convincing refutation of the doubts constantly expressed by the disintegrating critics as to the propriety of Books V.-VII. in a Dialogue on justice. In regard to those books Mr. Lindsay, for instance, writes: "We have now left the house of Polemarchus in the Peiraeus, and are at the Academy listening to Plato lecturing. Further these

books deal with subjects in which we know that Socrates had no interest."[1] Now there could hardly be a clearer illustration than that supplied by the beginning of Book II. of interest in the conception of the Good: and as it is admitted that "the arguments are still those which the historical Socrates might possibly have used,"[2] there seems to be some inconsistency in the critical view. This will be still more evident when we come to see that it is just this idea of good, which is brought to the front by Glaucon, and is the coping-stone of the later metaphysics, that forms the ἀρχὴ or ὑπόθεσις of Socrates' construction of the State. And surely, from a purely common-sense point of view, if you are going to discuss the question whether *justice is better* than, or better worth having than, *injustice*, there are at least four concepts and their relations to be criticised, *viz.*, (1) justice, (2) truth or reality ('is'), (3) goodness, (4) injustice. And curiously enough the discussion of them in the *Republic* follows exactly this order. Justice is the theme of Books II.-V. med.; truth or reality, and goodness, of Books V. med.-VII.; injustice of Books VIII. and IX. The question to be decided is, "What is the good of justice?" and Socrates remarks in so many words that the important thing is to teach the guardians how justice is good. As Mr. Bradley remarks in another connexion: "Any one who in philosophy asks such a question as 'What is the good of?' is obviously bound when challenged to state his answer to the inquiry, 'What is good?'"[3] It is preposterous to suppose that a mind as acute as Plato's or Socrates' did not see this necessity, and it is therefore gratuitous to raise doubts about the claim of Books V.-VII. to form a necessary integral portion of the argument, to regard it in short as a Platonic afterthought pitchforked into a Socratic discussion. Thirdly, as has already been indicated, it gives a systematic statement of the cynical sophistic theory of morality, stripped of all veneer or disguise, and urges it as forcibly as it is possible to do. "I shall speak vehemently," says Glaucon, "in favour of the unjust life and in doing so I shall show you the way in which I want to hear you condemning injustice and praising justice" (p. 358). He will, in Plato's phrase, give Socrates a real 'grip' in the wrestle for morality. Hitherto there had been only skirmishing; the way is now prepared for a pitched battle. Fourthly, it anticipates and makes necessary the tactics which Socrates adopts later on. It may be taken as a sound principle of criticism in Plato

[1] *Op. cit.*, p. xii. [2] *Ibid.*, p. xii.
[3] MIND, N.S., xx., No. 79, "On Some Aspects of Truth".

that if Socrates' meaning or method is ever not quite clear, it can always be found by asking whether it is the opposite of a sophistic position. For Socrates invariably says the opposite of what is advanced by his adversaries. He was, in a sense, obliged to indulge in what his critics are pleased to call paradoxes; for he had to put one paradox against another, and the Sophists were masters of paradox. Thus in the *Gorgias* Callicles says it is better to injure than to be injured. Plato says exactly the contrary. In the *Theætetus* the sophistic view is that knowledge is sensation. Plato gives it a flat denial. In the *Gorgias* Callicles says philosophy is a graceful accomplishment in youth, but deserves a whipping in a grown man. Plato says it should be the serious occupation of a lifetime. The Sophist held that everything comes into and passes out of being. Plato replied that everything real exists always. The Sophist says no one will choose virtue for its own sake. Plato that no one wills to be bad for the sake of badness. Thus we may expect the arguments of both Sophists and Socrates to advance along parallel lines, being locked together in a wrestling grip. We find exactly the same thing in the *Republic*. Thus Glaucon gives an analysis of society; Socrates replies by a more profound analysis. Glaucon finds injustice the radical 'natural' principle of 'natural' society. Socrates shows that 'natural' society is founded on justice. Glaucon says that real human nature stripped of shams seeks to secure as much material good as possible for the individual at the expense of all others; seeks to make everything its own. Socrates maintains that real human nature in seeking its own good seeks also to get as much good as possible for all; and tries to make nothing its own. The Sophist, recognising no distinction between justice and injustice, holds that everybody in the pursuit of his own interest is naturally unjust: Socrates holds that every one, if he pursues his own interest, is naturally just. Similarly Glaucon's pictures of the just and the unjust man are answered in Books IV. and VIII. by Socrates' pictures of the same. Again, Adeimantus brings up the influence of education and public opinion: Socrates accordingly discusses them both. Adeimantus also shows how false religious views undermine morality: Socrates accordingly shows how true religious views provide a basis for moral education. Finally, the prejudice in favour of justice is ascribed to the fact that justice had not been disengaged from its consequences or irrelevant accompaniments, and had not been considered in itself. Socrates accordingly discusses justice in idea, and is

thereby forced to discuss the relations between knowledge and opinion, appearance and reality,—in short, the theory of ideas. Socrates, in fact, takes up the cue given him by Glaucon ("I shall show you the way in which I want to hear you condemning injustice and praising injustice"),[1] and responds to the challenge to show justice in and for itself, and how it is a good.

The necessity of considering justice and injustice in their most complete manifestation or development had been brought to light to some extent by the discussions of Book I. Thus Thrasymachus insists that his theory that justice is the interest of the stronger, *i.e.* the ruler, must only be considered to hold good on the assumption that the ruler is a ruler as such, who never mistakes, or, if he does, can always retrieve it by fighting down opposition or escaping detection (p. 345), and that his theory only applies if a tyrant, the 'superman' of antiquity, is taken as the type, not the kidnapper or the pickpocket. "For if you take the *most perfect* injustice, you will easily see that it makes the doer of injustice the happiest of men" (p. 344), and the most perfect type is the man who is able to aggrandise himself or overreach others on a large scale (p. 344), though it is admitted that the injustice of the pickpocket is also profitable, if it escapes detection. Still it is only those who commit "complete injustice" who are called happy or blessed. Nor does Socrates object to this principle of comparison. He is perfectly willing to think of the ruler *qua* ruler as infallible and of ruling as an art *qua* art as perfect, and he reproaches Thrasymachus for abandoning the ideal conceptions, when they got him into difficulties, in favour of commonplace notions. He is quite ready to argue whether perfect injustice is or is not more profitable than perfect justice, when the question is raised whether the one is virtue and wisdom and the other vice and ignorance. In this way, the path is prepared for considering justice in idea, alone by itself, in its essential nature, stripped of all consequences or extraneous accompaniments. The great desideratum at the end of Book I. was the definition of justice, the whole of justice and nothing but justice. And this is reiterated by Glaucon and Adeimantus in their restatement of the problem. But then, at once, the thought occurs on reflexion that in actual experience this is precisely what you cannot do. Absolute justice, justice in its purity and perfection, never is actually an object of experience. Both just acts and unjust acts are always mixed up with irrelevant circumstances, and there is no action of which you can be quite sure that it is pure, unalloyed justice or

[1] *Republic*, p. 358.

injustice. Actual individual moral acts are in Plato's language "tumbling about between existence and non-existence". It would seem, therefore, a somewhat unpromising enterprise to fix and define "perfect, entire, extreme justice, absolutely in and by itself". It looks at first sight as if Glaucon invited Socrates to attempt the impossible.

But Glaucon indicates a way out of the difficulty; and he sets the example by appealing beyond experience. In his account of the nature and origin of justice his statement that the best thing according to nature is injustice (to injure) cannot be verified by ordinary experience, which *ex hypothesi* is based on the compromise called justice. He is founding therefore the Sophistic doctrine on an *idea* of what is best, not on empirical facts, and cannot therefore complain if Socrates does not appeal to actual experience either, but to its presuppositions. The theory of Glaucon then suggests that the matter must be discussed in the atmosphere of ideals, of what we believe human nature should be, if it were at its best, and were realising its true nature, and cannot be settled except by determination of what human nature or society would be if dominated by either of the principles in its perfection. Hence Glaucon wants to know "what each is and what power each has of itself when existing by itself in the soul" (p. 358), and states that it will be only possible to decide which confers the best life on its possessor "by contrasting the *extremes* of justice and injustice" (p. 360), and explains that in order to do so it is necessary to abstract nothing from the injustice of the unjust or from the justice of the just; "each must be assumed as perfect in his own way of life" (p. 360). In view of these quotations, it cannot be said that Plato does not prepare the way for, or surprises his readers with, the construction of a perfect State, completely dominated by a single principle.

Moreover, the restatement of the two brothers shows how the perfection of each type or ideal in his own particular line (εἰς τὸ ἑαυτοῦ ἐπιτήδευμα) may be reached. Socrates, they say, must disregard consequences altogether, and thereby the motives and inducements which public opinion may supply for pursuing the one or avoiding the other. If justice is honoured or rewarded, you can never tell with absolute certainty whether just actions are really just, *i.e.*, done purely for the sake of justice, or merely skilfully adapted means for attaining honours and rewards. Similarly, if injustice is dishonoured and punished, you can never tell whether a man avoids committing it because he hates injustice as such or is afraid of being whipped for it. You can never find what is

the nature and power of justice, unless you can realise the situation of a just man, who has no other reward but justice, *i.e.*, who cares for nothing but justice, and that of the unjust man, who cares for everything but justice. Otherwise, it is impossible to say which is really the object of desire, and why and what it is good for. Hence to find out which is really the object of choice, *i.e.*, which is the good, chosen for its own sake, it is necessary, suggests Glaucon, to strip each of its consequences and regard every man as possessed of the ring of Gyges, following absolutely his own unfettered choice, so that what he chooses, he chooses ἑκὼν ὡς ἀγαθὸν not ἄκων ὡς ἀναγκαῖον.[1] Clearly, therefore, actual experience is not the final court of appeal, if the decision is to turn on an imaginary case, for the case can never be brought to a practical test. Neither can it be settled by individual psychological introspection, for every individual in matters of introspection claims to be the final judge of the evidence of his own consciousness. The application of the story of the ring by Glaucon amounts to an assertion of what would happen if such and such conditions were realised. It is a judgment on human motives, and can only be verified by a psychology —by an examination of human nature—which both parties to the arguments would accept as true. The problem is to find a point of agreement, an ἀρχὴ or ὑπόθεσις, which will be acknowledged both by Socrates and the Sophists. This, as we shall see, Socrates succeeds in doing, and it is on the strength of this that his victorious vindication of justice is based. For, both sides, starting from admissions, play the part of both jury and advocate, in the manner explained in Book I. As they agree in the beginning they can also agree at the end. Thus the content of Socrates' reasoning is inseparably bound up with its form.

Meanwhile, starting with the principle accepted by both sides that the fundamental object of human desire is to get as much good as possible, Socrates shows what must happen if this principle is followed with absolute consistency and clear knowledge of the situation. The Sophistic examination of human nature takes too much for granted and begins too late. For the test implied in the possession of the ring of Gyges presupposes the beginning and development of human society. Society must first be in existence and in a fairly advanced state before the possessor of the ring can plunder or abstain from plundering it. But no analysis of human society can be complete or satisfactory which does not take account of its logical genesis

[1] *Cf. Republic*, pp. 359, 360.

or ultimate ground, or, in other words, reveal the ideas on which it is based. This is what Socrates means when later on in his reply he insists on beginning at the very beginning and ascertaining the presuppositions of human society. He asks, in short, what makes human society possible; to what principle does it owe its existence. The problem, in short, is what really is human nature, and by what motives are men really determined to action? By merely prudential selfish motives? or by ideal motives as well? The only way of solving the problem is to discover the right method of finding out what human nature is. Here, as always, Socrates is the master of method. You cannot, he seems to say, find the answer to your questions by an arbitrary selection of social phenomena, which lend cover to your own theory, or by superficial and perhaps sophisticated introspection. You must undertake a thoroughgoing analysis of society as such, and strike right down to its foundations which every one, setting aside all preconceptions, cannot but acknowledge. It is this idea which accounts for the prominence given to the conception of φύσις all through Books II. to IV. The Sophistic analysis starts with an antithesis between the individual and Society; but Socrates says implicitly that you must first have your individuals in society.

Again, Glaucon lays down that either type of character must be thoroughly efficient. The unjust man must be shrewd, courageous, eloquent, able to avoid detection, strong enough to over-master opposition, while the just man must never flinch in the face of the hardest trials. As the reasons which commonly deter people from injustice are the evil reputation and the punishment it incurs when detected, all these deterrents must be put aside. The unjust man must never have the reputation for injustice and by consequence always have the reputation for justice. Moreover, it follows that he must never be caught in his injustice: he can *be* absolutely unjust, and yet be thought absolutely just. On the other hand, as the desire for reward, etc., is said to be the motive for justice, these inducements must also be put aside in the case of the just man. He must be stripped of all appearance of justice and be reputed unjust. He must be left with nothing but justice. Thus only will these two come to the extremes of justice and injustice, and then only may we judge which of them is the happier (p. 561). Adeimantus also emphasises this procedure. "Abstract the reputation of each, as Glaucon urged. For unless you abstract from each his proper reputation and give it one

that does not belong to it, we shall say that you are praising not the reality but the appearance of justice and condemning not the reality but the appearance of injustice." [1] If justice, as Socrates and they agree, belongs to the class of "fairest goods," it is incumbent on Socrates "to show not only that justice is stronger than injustice, but to show precisely what effect each has in him who possesses it, that makes the one in and for itself good, and the other bad" (p. 367). If this is not done, they say, the problem is shirked, or given up, and it must mean that Socrates is content to praise only the appearance of justice, and advises that men should be unjust and not be found out, and agrees with Thrasymachus that justice is the good of another, the advantage of the stronger, and injustice is profitable to oneself, but disadvantageous to the weaker.

Finally, the restatement makes plain the real issue in morality. It emphasises the fact that morality or justice must be shown to be each man's own good, and not somebody else's, if it is to exercise any attraction on the motives of conduct. Every form of action must be shown to be profitable to each man himself, if it is to be choice-worthy. It is sometimes suggested that in Plato's ethics the individual is sacrificed to the State, or at any rate merged in or subordinated to it. Thus Dr. Strong writes :—

"As we look at the figure which his treatment suggests, it is impossible to deny that it loses character to our minds in two ways: (1) It is entirely social, and the individual element is practically ignored. . . . That is, the individual, as he is to have no happiness, would seem to have no existence apart from his State." [2]

It is quite true that Plato endeavours to make clear that the individual can have no real happiness apart from the State, that the interests of the two are absolutely identical. But the suggestion that the individual is sacrificed or ignored in any way is utterly groundless. It is not only inconsistent with the contrast between the two individuals—the perfectly just man and the perfectly unjust man—scoured, as Socrates says, like two statues. But it is inconsistent with the portrait of the just man in Book IV., to which the account of the State is preparatory, as well as with the conditions of the problem as set forth by Glaucon and Adeimantus, when they insist on the demonstration of the power of justice in the *individual* soul. All through the formulation of the problem in the beginning of Book II. the assumption is that justice must be shown to be a man's own good, something which he, the individual, would choose as the best thing for

[1] *Republic*, p. 367. [2] *Platonism*, p. 191.

himself. Hence it is as a matter of individual choice that he presents the moral problem in Book II.

"Now, my dear Socrates, when concerning the way in which gods and men honour virtue and vice, we find statements such as these made repeatedly and in the same tenor, what can we think will be the effect on the souls of those who hear them, young men of good natural dispositions, who, like bees, fly from one statement to another, gathering from them all an answer to the question, What must a man be and what paths must he take if he would live the best life possible? Naturally he will say to himself in the words of Pindar, 'Shall *I* by justice or by crooked wiles ascend that wall so high, and so fortify *myself* for life? For what do men say? If *I* am just, unless *I* also seem just, *I* gain no advantage, but manifest toils and pains. But if *I* am unjust and have acquired the appearance of injustice, a heavenly life, they say, is *mine*.'"

Plato, one may be sure, would have had little patience with modern shibboleths about altruism, or social service, or working for the good of the race, or protests against preoccupation with individual salvation. He was quite certain that a man's business was just this, to work out his *own* salvation, to do his *own* work, and in this respect his attitude finds confirmation in the Gospel. "What doth it profit a man, if he gain the whole world and lose *his own* soul?" or "What shall a man give in exchange for his soul?" True philosophy, religion and common sense are here on common ground. All recognise that a man's work is to seek his own good. It will not be surprising, therefore, if the conception of good is prominent in Socrates' doctrine and discovered to be the ultimate principle of everything. When this is realised, it seems to be clear that the culminating part of the dialogue, dealing with the ideas and the idea of the good, necessarily arises in the course of the discussion, and is not a layer of Platonic metaphysics superimposed on Socratic ethics.

V.

Socrates, then, is challenged in the most serious way possible by the powerful statement of the moral problem at the beginning of Book II. to decide the respective claims on man's devotion of perfect justice and injustice. The method he chooses has ever since been a standing puzzle to his critics and interpreters. Thus Dr. Strong remarks that "the question of the ideal state arises by the way. The largest question is apparently a parenthetic one raised simply as useful to the solution of a *completely different problem*."[1] Again, the contending claims of the "historical" and of the "Platonic" Socrates, or perhaps rather the attempt to combine them, is made to account for the difference

[1] Italics mine.

between the presentation of the problem and the method applied to its solution. Thus Mr. Lindsay remarks:—

"Further the question as to the nature of justice was one which it was natural for Socrates to ask and impossible for him to answer. All that Socrates could do was to show that the answers ordinarily given were inadequate. In Book I. we have a dramatic representation of his doing this. Socrates had also left some hints as to how questions of that kind ought to be answered. These are worked out in Books II.-IV., which are less dramatic than Book I., because we have in these books Plato's development of Socrates' teaching. But this method, in turn, proves inadequate. Recourse is now had to Plato's metaphysics and Socrates becomes merely the mouthpiece of his teaching."

The more one ponders on this passage, the more astonishing it appears. The assertion that Socrates, the father of moral philosophy, was disabled from explaining the nature of justice is a piece of pure dogmatism. It is surely hazardous to say what such a remarkable character as Socrates could or could not do. The idea obviously is a deduction from the preconception of the "historical" negative Socrates, and, of course, if you start by defining "the historical Socrates" as merely a critical inquirer, whose sole occupation was in pulling other people's ideas and arguments to pieces, you must deny his claim to be a constructive thinker. But, apart from the really important question in regard to the plot of the *Republic, viz.*, the sequence of ideas and the validity of the argument employed by the Socrates of the dialogue, no matter whether he is or is not "the historical Socrates," it remains a question of some interest whether a thinker, who was unable to answer questions, *i.e.* who inquired or criticised without any constructive standpoint, could possibly have achieved the commanding position in the history of moral philosophy that Socrates has as a matter of fact secured. Nor again does there seem to be any sufficient ground for supposing that the development of Socratic hints should necessarily be less dramatic than the representation of other kinds of Socratic teaching. The assertion arbitrarily limits the possibilities of Plato's dramatic genius. The last sentence certainly is highly disputable. Books II.-IV. are only inadequate in the sense that the beginning of anything is inadequate without the middle and end. Books V.-VII. are not added on, because the previous argument had failed through inadequacy, but because they are, in the mind of the author of the dialogue, the necessary development and culmination of the argument, which prepares for them. It is true that at the beginning of Book V. Socrates pretends that the argument is finished, just as he pretends at the beginning of Book II. that he thought that he had

"got rid of the argument". But in both cases Plato only employs a familiar dramatic device for articulating the plot. Nothing is clearer than his evident intention to make the argument of one piece—to make sure that all the conclusions arrived at are absolutely consistent with the original 'admissions'. His method is to lead his readers up a staircase of argument. But it is not a continuous ascent. Single flights are continuous. But at intervals he comes to a landing, as it were; and there he halts for a while to take breath and take stock of the logical position, by looking backwards and forwards, before climbing higher and finally reaching the very top of his watch tower. As long as the inner nerve of the argument is not sought for, so long will the puzzle remain that in the first half of the *Republic* there is a not quite successful combination—not successful, because it has not escaped the sharp eyes of disintegrating critics—of the negative criticism of a philosopher who could hint an answer, but could not give it in full, and of the dogmatic undramatic exposition of the inadequate development of Socratic hints. Nor is it surprising to read almost immediately afterwards that the results of this are "the curious form" of the dialogue and the difficulty of "saying precisely what is the subject of the *Republic*," and that the last-named difficulty is attributed to Plato's belief that "it is impossible to answer satisfactorily the questions between the just and the unjust life without at the same time answering other questions of almost equal interest". Thus do speculations about the temporal genesis of a philosophical work darken the counsel of those who would understand its unity, and by consequence its validity, as a treatise on moral philosophy.

Another cause of misunderstanding is the attention paid to Plato's or Socrates' attitude to contemporary Greek politics, and the tendency to regard the *Republic* as in some sense a political pamphlet. Thus Mr. Lindsay says of Books II.-IV.: "Their aim is to preserve those elements in it (*i.e.* Greek society) which were good, or, as Socrates prefers to say, 'natural,'" and he contrasts the "hopefulness" of those books compared with the pessimism of the next three. But, if the *Republic* is to be considered specially interesting as a historical document containing 'an indictment of Greek civilisation,' it is scarcely likely that its value as a work of speculative philosophy on a universal human problem, *viz.*, whether it is better or not for the individual, *i.e.*, for any and every individual always and everywhere, to chose justice rather than injustice as the principle of conduct will be properly recognised. The clue to understanding

it will hardly be found by concentrating on the contingent, local, and temporary aspects of the dialogue rather than on the necessary, universal aspects of it.

There can be no doubt, however, that it is not easy to see why Plato threw his solution of the problem into the precise form which he adopts. It has certainly perplexed his critics and interpreters, and it is worth while to examine some of their accounts of it. Mr. Nettleship says: "There seems at first sight scarcely any connexion between this question and the answer that he proceeds to give to it. For he begins by passing suddenly to the subject of the genesis of society," and he adds: "to understand the importance of this transition is to understand the whole argument of the *Republic*" (*Lectures on the Republic*). According to Nettleship, Plato's method consists of two parts: "(1) to analyse facts about human nature which are apparent to everybody, and to examine the significance of those facts till he arrives eventually at the inmost principle of human nature of which they are the expression," the postulate of this method being that "all the institutions of society, class organisation, law, religion, art, and so on, are ultimately products of the human soul, an inner principle of life, which works itself out in these outward shapes," and which in these larger letters is easier to read and understand; (2) "to answer the question, Given the fact of society as it is, what are the conditions which its existence implies? What is it in human nature which makes society exist," and his answer consists of a "logical picture of the origin of society in this sense, that it illustrates what the existence and maintenance of society demands, and how these various demands can best be satisfied, taking these demands in a certain logical order," and, he continues, "Plato has embarrassed us by the form of his inquiry," by putting things in a picturesque instead of an abstract way.

Now it is not very difficult to understand that justice is the same in principle whether in the individual or in the State, and is consequently easier to recognise on the larger scale; that society is an outward expression of psychological principles, and that to understand the morality of the individual it is necessary to understand the morality of the society to which he belongs. But the point to note is that Plato does not proceed to examine "society as it is," but does an entirely different thing. He describes it as *it ought to be*, as it must be according to nature (φύσει). He draws a picture of what a society would be like if every individual acted with absolute consistency according to what he thought was best for himself,[1] in the satisfaction of his needs. He does not

[1] *Republic*, p. 369.

analyse existing society, at any rate in Books II.-IV., "society, as it is," in Mr. Nettleship's words, but states the conditions, principles, presuppositions, causes, or whatever is the correct term, of an ideal, perfect society, *i.e.* of society as such, properly so-called—in short, of society in idea, 'as it really is,' in Plato's own phraseology, of society, disengaged of everything which would make it fail of being society. The problem to solve, then, is not why Plato sketches a commonwealth at all, instead of examining the individual, or discussing the nature of justice and injustice in a formal abstract manner, in order to arrive at a conclusion about what should be the individual choice, but why he sketches a perfect commonwealth, society in idea, and further why he sketches the perfect commonwealth in its development from the beginning.

It is all the more necessary to mention this aspect of the case, because no less a scholar than Gomperz seems to have gone seriously astray in regard to it. He calls attention to two transitions in this section of the dialogue: first, the transition from the individual to society; and secondly, the transition from the real to the ideal. The "genetic method" by which, he says, Plato gives his approval to the materialistic conception of history, "yields place to ideal construction". 'So it was' gives place to 'so it ought to be,' a transition which Gomperz considers of most far-reaching consequences.

"Now at a stroke," he writes, "he abandons the description of actual processes, or what might pass for such, and begins to design a pattern state utterly different from anything ever realised in history. Genetic method yields place to ideal construction. Was Plato conscious of this abrupt reversal? Or how did he think it might be justified? To these questions the following is probably the right answer. Plato does not think he is setting forth a purely subjective ideal, as one of many possible; its fundamental principles are capable of realisation, but perfections demanded by human nature of what already exists, which seemed to him a further stage in the process of natural development. The more progress, the more visible is justice."

As Gomperz is evidently somehow aware that this explanation is somewhat mixed, he promptly proceeds to blame Plato for the muddle, instead of revising his own views. He suggests that it was—

"no doubt impossible to attain perfect smoothness and continuity in a work intended to weld together three main themes whose internal connexion was but *slight*:[1] moral, political and historical philosophy. Some harshness of transition was not entirely to be avoided especially at the junction of the two last-named themes."

[1] Italics mine.

When a critic starts with the idea that there is only a slight connexion between things which Plato considered vitally connected, it cannot be wondered at that he fails to throw light on Plato's process of argument. But the failure serves to illustrate both the undoubted difficulty of comprehending the nature of the argument, and also the danger of coming with preconceptions to the interpretation of Plato. It may of course be urged that after all Plato's real interest was in sketching an ideal State and that he effects a transition to it at the earliest convenient stage in the discussion; that his real interest was in what Dr. Strong calls "apparently a parenthetic question," "completely different" from that with which he started. But such a theory is in conflict not only with the emphatic restatement of the problem for the individual in Book II. but is in direct contradiction to a number of express statements in the course of the construction of the ideal State, in which Plato reminds his readers that he has entered on this long inquiry with the express purpose of finding out what justice is. Nothing could be clearer than that the sketching of the ideal State is auxiliary to the main inquiry, is, in fact, just Plato's way of answering the question. Hence he is not switching off his interest from a smaller to a larger problem, but he is strictly adapting his argument to the solution of the original problem, whether justice is better or not than injustice. This surely is the meaning of such passages as the following: "If in our argument we were to watch a State in the making, should we not see its justice and injustice in the making also" (p. 369). Before discussing education, he says: "Now, how shall we rear and educate these guardians? Will this inquiry help us in discovering the object of all our search, namely how justice and injustice arise in a city?" (p. 376). Again he is unable to complete his account of the literature permissible in his ideal State; for "it is impossible for us, my friend, to lay down rules for them at present". . . . "When we have discovered the nature of justice and have found that it is naturally profitable to him who possesses it, whether he have the reputation of a just man or no, shall we not then agree that stories which deal with men must be of the nature we have indicated" (p. 392). Or again "for it was our idea that in such a city we should most certainly find justice as we should find injustice in the worst governed city, and by inspecting both we hoped to decide our old question" (p. 420). And "it was in order to have a standard that we were inquiring what justice itself is like, and what the perfectly just man would be like, if he should come

into existence and were inquiring similarly as to injustice and the unjust man" (p. 472). Such passages show quite clearly that Plato knew perfectly well that he was tackling a personal problem, and that he had deliberately adopted this apparently roundabout method of approach to pierce into what R. L. Stevenson calls "the central metropolis of the self". The problem then to be solved is, How does this delinea ion of the ideal State help in this direction, and how does the argument make such a process necessary? Why cannot you see what justice in its essence, nature, or perfection is like, without seeing what a society in its perfection is like? Why is it necessary first to establish such a city, before "getting a light" and searching within?

VI.

The clue to this problem will be found by referring to the method of argument discussed and approved by Socrates in Book I., page 348. He points out there that if the parties to an argument match speech with speech, and enumerate the advantages claimed by either, it will be necessary to add up and measure them, and a jury will be necessary to decide between them. Now it would clearly be difficult for a jury to measure the relative advantages of the just man and the unjust man as portrayed by Glaucon, between the man who will "steal anything he wishes from the very market-place with impunity, enter men's houses and have intercourse with whom he will, kill or set free whomsoever he please, and walk among men as a god," and the man who will be "scourged, racked, fettered, will have his eyes burnt out, and at last, after all manner of suffering, will be crucified, and will learn that he ought to desire not to be but to seem just," for want of a common standard acknowledged by both contending parties. Moreover, a jury would find its labour lost, for one side maintains that after all there is nothing to decide, for the picture of the just man is only a fancy portrait, which not only does not but could not correspond to anything real, for it is contended that no one could be of such adamantine nature as "to abide in justice and have the strength to abstain from theft and to keep his hands from the goods of others," and consequently suffer the treatment above described. And even, if, *per impossibile*, a jury were to decide in favour of the just man, its authority would be repudiated on the ground that it is biased.

The rhetorical method, then, being out of the question, it is necessary to follow the other method, which dispenses

with an independent jury. It is thus described in Book I.: "But if we follow our previous form of inquiry, arguing till we come to an agreement, then we shall be at the same time jury and advocates" (p. 348). Socrates, accordingly, adopts the familiar and only true logical method of proceeding, ἐξ ὁμολογουμένων, according to which the discovery of truth is a joint-stock affair. In such a process, both sides are equally interested in tracing out the consequences of what they have agreed upon at the beginning, and both are obliged to be convinced of the truths which follow from the admissions with which they started. Either in persuading the other is persuaded himself.

The object of real argument is that both sides should agree at the conclusion; but the conclusion depends on principles, premises, starting-points. Hence the important thing is to agree about the beginnings of the argument, for unless the parties to it agree at the start. they will never agree at the end.

How then is Socrates to find first principles which will command the assent of the upholders of two such opposed ideals as those portrayed in the first and second books of the *Republic*. According to the one creed justice, according to the other injustice is, in the words of Thasymachus, "beautiful and strong". It looks impossible to find some common ground from which to start—and all the more so, as the Sophists held that justice was really an illusion, a sham thing, forced on mankind (ἀναγκαῖος and ἐπίπονος), but never a real thing, deliberately willed as a good (ὡς ἀγαθόν). It was truly a "stubborn" problem, but Socrates solved it by his method. He had to find something which not only he admitted for him*self*, but something which his opponent admitted for him*self*. That is to say, his method postulated something common to all selves, even to those ranged in absolute opposition to one another. There were he believed, if only they could be brought to light, certain first principles (ἀρχαί), or intuitions, which every self would acknowledge, for in acknowledging them every consciousness was akin to or at one with every other consciousness. Indeed, if there were no such principles, all argument, all attempt at consecutive assertions, would be impossible. Hence his principle, γνῶθι σεαυτόν. He exhorted every one to know himself, because he believed that the self of every one was worth knowing, and that, all selves, in so far as they grasped the common universal first principles of thought and conduct, were united. If, then, he could find certain first principles which all would acknowledge without exception, he would have prin-

ciples of universal validity, leading to consequences which were universally binding. He could start securely if he began with propositions which, as he said to Cephalus, in the first book, "every one would say" (πᾶς ἄν εἴποι). But, secondly, how were these principles to be found? Socrates answered, by induction. And no matter what may be the exact etymological meaning of this word—whether it means, to lead the universal truth to the mind of the hearer or *vice versa*—it always implies that the mind is made to recognise for *itself* as certain some general truth, which it reaches by reflexion, *i.e.*, by probing into its consciousness or experience, and it does not matter *whose* mind is immediately concerned, whether of the questioner or answerer in an argument. For in the recognition of the truths reached by induction, both minds, nay, all minds, are the same. It is the mind in general, the consciousness common to all individuals, which by reflexion sees the universal in the particular, and consequently is able to produce or recognise the particular instance as exemplifying or manifesting the universal. Hence the dialogue form, in which two different speakers converse, is an accident, and not necessary to the employment of the inductive method, which is equally applicable to controversial or 'negative' dialogue, in which false principles are overthrown, or to the so-called 'dogmatic' dialogue, in which the consequences of true principles are traced out, or to the dialogue of the soul with itself, of which, in fact, the two former processes are only outward representations. There is, however, another aspect of Socrates' method which is to be noticed—his well-known εἰρωνεία—his pretence of ignorance or profession of intellectual humility. When he is arguing in order to upset false principles, he gets his opponent to admit something, which leads to consequences which the latter must accept, and which yet are inconsistent with his original position. When he acknowledges the suggestions offered by Socrates, he is not aware of the contradictions into which he will fall, and so, like the actor in a Greek tragedy, he speaks truer than he knows, and makes statements whose full significance only becomes clearer later on. But 'irony' is no less applicable to dialogues which are constructive or dramatic, like the body of the *Republic*. The Sophists denied the existence of justice as a good deliberately chosen by men, and maintained that, if every one had the ring of Gyges, *i.e.*, under an ideal state of things, all would choose the same path—commonly called the path of injustice. Against opponents then who denied the existence of a thing, it was useless to

state its nature (ὅτι ἐστίν), until its existence had been first established, until the question, εἰ ἐστίν, has first been answered. It would be futile to assume that justice and injustice are two distinct qualities, to state their definition in general, abstract terms, and then decide which is to be preferred. And Socrates at the close of the first book gives expression to this thought. No; justice must first be exhibited in the concrete as a really existing thing. Then, when it was recognised as having an οὐσία, a substantial nature, its definition could be given—a definition, not nominal, but real, expressing the essence of a determinate nature. Definition, in other words, must presuppose knowledge and experience of reality. To define, you must know or experience, and, if you are to know anything, it must first exist. But if you are dealing with an opponent who does not acknowledge the independent reality of the thing you propose to define, the 'ironical' method is the only one which it is possible to adopt. You are obliged to secure from him the admission of first principles, the full significance of which he does not at first realise; and then, by the maieutic method, their consequences are systematically deduced, the embryonic idea contained in the original admission is brought to birth, and the existence of what was originally denied stands out in clear and well-defined lines. So in the *Republic*, Socrates elicits the acknowledgment that every one does what he thinks is best for himelf, and seeks his own good to the uttermost, and then shows concretely that this impulse, if carried out with absolute consistency, is just what we mean by justice—good in action. Further, his definition is of the universal, for he exhibits a principle the operation of which is without exception, and independent of time and circumstance. Unlike the formulæ of Cephalus, Polemarchus and Thrasymachus, which are merely generalised summaries of portions of social experience, he has got hold of the principle which makes all social experience possible, and which must therefore be universal. Justice, Socrates argues, is the expression of the idea of good in society, the principle according to which men's needs are really and best satisfied. Therefore in order that justice may be realised, men must know how it is good. For the practice of virtue knowledge of the good is necessary. Just as the belief in what is best for each consistently applied brings the elementary State into being, so the increasing knowledge of good develops it until at its highest stage full consciousness of the idea or principle of good is necessary to maintain society in its perfection. We see then that the peculiar nature of the argument, with

which Socrates had to deal, necessarily determined the use of the characteristic features of his method and doctrine so intimately associated with his fame — 'know thyself, induction, irony, definition, universal truths, and virtue is knowledge'.

Let us now examine the application of the Socratic method in the body of the *Republic*. Socrates is opposing counsel who are briefed for injustice, Thrasymachus, Glaucon and Adeimantus, and consequently must hit upon some position which would be admitted by the most vehement advocate of sophistry. Otherwise he can never carry them along with him. In Book I. he employed his method of extracting admissions for the comparatively easy task of upsetting his opponent; it is eristic and, as ordinarily understood, 'dramatic' in effect. Thus, when Thrasymachus defines justice as the "interest of the stronger," Socrates causes him to make an admission which leads to a direct contradiction to his definition. Now, however, his object is not to pull down, but to build up, dogmatic rather than critical. He accordingly must find principles which everybody and, by consequence, his opponent, must admit, and which will form starting-points for a self-consistent theory which also must be universally acceptable. He then tracks out the *ἀρχαὶ* in all their ramifications, shows what they involve, and thereby proves to the company that, if they accept the logically deduced consequences of their *ἀρχαί*, as they must do, they *ipso facto* demonstrate the essential superiority of justice, the reality of which they affected to deny.

How then does Socrates set about his task? As usual, he takes his cue from the opposing side: he accepts 'the grip' offered him by Glaucon and Adeimantus. Their theory is an account of what society would be, if it were organised according to what is best, and purports to describe the genesis of justice. Socrates might have pointed out certain inherent weaknesses in their account, *e.g.* that it is somewhat remarkable that what is the naturally best thing (to injure) leads inevitably to what is naturally worse (not to be injured), artifice or convention overcoming nature. Or again he might have pointed out the entirely arbitrary distinction between the individual and society involved in their views; for society provides a field of fools to be preyed upon by the enlightened, unjust individual, who has the pluck, the power and the cunning to override conventions successfully. Thus, though natural injustice first gives way to unnatural conventional justice, there is always a road back to nature open to

the person who will tear off the mask of social hypocrisy and be 'a man'.

There would, however, have been little satisfaction in showing up these inconsistencies. And the brothers had supplied another cue in propounding their hypothesis of a single motive for human conduct. Glaucon had maintained that every man, whether just (so-called) or unjust (so-called), if he had the power to do as he liked, would be found to follow the path of πλεονεξία, which every one naturally pursues as good. And Adeimantus had shown further that in the popular mind justice is followed grudgingly and of necessity (ὡς ἀναγκαῖον), not as a good thing freely and spontaneously pursued (ὡς ἀγαθόν). Their theory postulated an absolute antithesis between necessity and free will, between what a man must do and what he wills to do, an opposition, which Socrates has to overcome by demonstrating that unsophisticated human nature does with a will what it must do. The problem accordingly is to find out what is truly good according to unbiased human nature, what is ultimately the correct interpretation of good, whether, in fact, there is any real and ultimate distinction between good and evil. It certainly is a "stubborn" problem to determine whether the idea of good does or does not impose any restraint on the exercise of ἐπιθυμία, whether the satisfaction of ἐπιθυμία does or does not necessarily involve a limit upon the individual in his relations with other individuals. There are, then, three conceptions suggested in the course of the discussion to Socrates—society, nature, good, and his problem is to discover a starting-point involving all these ideas, on which both sides must agree.

The argument is at a deadlock so far as justice and injustice are concerned, and so Socrates quietly drops them as such for the time being. He says in effect to the Sophist: "You base your conceptions of justice and injustice on an analysis of society. The method is quite a good one, and I will do likewise. Without society, there certainly cannot be justice or injustice either. Justice therefore presupposes society. Let us then turn to society and ask ourselves how it originates, and, having originated, how it develops. If we can see how society begins, we shall see how both justice and injustice also begin, and how they both develop. Let us therefore begin at the very beginning, casting aside all preconceptions. Let us ascertain what there must be in society at its lowest terms, if it is to be society at all. You assume that in a natural state of society everybody would follow his ἐπιθυμία, and in so doing would pursue what he

conceives to be his good. You say that every one naturally wants to get as much good for himself as possible. Very well, let us take you at your word, and work the thing out from beginning to end. If we accept the principle that good is the satisfaction of want or desire, we shall start on common ground. The problem of life for each one is to do the best for himself. We are all agreed about that. Let us then apply this conception to society, and see what happens, what must happen, if we contemplate society originating through the operation of the motive that each should do the very best for himself. We will not prejudice the issue by blaming or praising it as a selfish motive. We will be content to assume that every individual is naturally actuated by self-interest alone; and we will watch where this motive, if acted upon with clear and enlightened consciousness, will land us." In the first book Socrates had been accused by Thrasymachus of indulging in his 'customary irony,' because he pretended not to know enough to be able to answer questions and therefore confined himself to asking them. There we had its negative application, which consisted in drawing out his interlocutor and making him contradict himself. But Books II.-IV. illustrate its positive application, for they show that the principle which is acknowledged at the beginning of the argument, and which must be acknowledged as the indisputable presupposition of society—if they like to call it so—the principle of the social contract, involves also the principle of justice, in fact *is* nothing else than the principle of justice in actual operation; that the creative principle of human life and well-being and justice are really equivalent terms. A careful reading shows how well the ironical method is maintained all through the argument. All direct discussion of justice as something to be apprehended as already before them, is studiously avoided, while at the same time it is insisted repeatedly at important stages that the argument will eventually bring to light the nature of justice. In this way justice is made to unfold itself gradually as a concrete principle in actual operation, and only at the end of the process is its nature fully revealed. A few quotations will illustrate this aspect of the argument. "Perhaps justice is discoverable somewhere in the mutual needs of these same persons" (p. 372 A). "Perhaps we shall discover it (justice) in the luxurious city" (p. 372 E). In page 376 C it is admitted that the inquiry into the proper education of the guardians will promote the discovery of justice, and at this apparent digression Socrates remarks that he wishes to omit nothing useful nor to occupy him-

self with anything redundant (a remark which, it may be noted in passing, is surely a covert assertion on Plato's part that the *Republic* is intended to be a unity, and not a patchwork). In 392 C it is found necessary to postpone the settlement of the question as to how the λόγοι are to speak of men till the nature of justice has been discovered. It is probable that such erroneous views as that "unjust men are happy, many just men are miserable, injustice is profitable if it be not detected, and justice the good of another, but a man's own loss," will be excluded. But the matter cannot be decided "till we have discovered what sort of a thing justice is and that it is naturally profitable to him who possesses it". That is to say, it is useless to predicate about anything in the abstract till it has first been experienced in the concrete; and Socrates' aim is to make his hearers experience the thing justice as the working principle of society, confident that they must needs acknowledge its superiority, when they see it. Finally, the full significance of the ironical method in its positive application to constructive thought is revealed, when the seekers after justice find (p. 432) that they have been applying the principle of justice all the time, unawares, in setting forth not only the original indispensable conditions of society, but in its subsequent development. They have been expecting justice to 'turn up,' so to speak, as a result, but it is in fact the cause of all social effects or phenomena, in so far as they are truly social.

"Why, my good sir," says Socrates, "it appears that the quarry has been rolling before our feet the whole time and we have never seen it, but have made fools of ourselves. Just so people sometimes go about looking for a thing, which they are holding in their hands, and we have been gazing somewhere miles away instead of looking at the thing before us, and quite probably that is how it has escaped us."

Here then clearly is an intimation that the ironical method of Socrates can be applied, not merely to the refutation of an opponent, but as a means of analysing one's own conceptions—of 'knowing oneself'—in the joint pursuit of truth. If we really see what it is that is implied in society—what makes it what it is really or should be—alike in its lowest terms and in its development to its highest stages, we *ipso facto* see that the fundamental presupposition is justice—"the virtue which enabled all the rest to find a place in the State and after they have appeared preserves them so long as it is present in the city" (p. 433).

Before proceeding to show how Socrates succeeds in confuting the sophistical theory by his selection of first principles for his own theory, it may be well to remark upon certain

objections or difficulties that have been raised in connexion with his account of society. One objection is that it is defective on the historical or anthropological side. Thus Dr. Strong (*Platonism*, p. 222) says: "It does not go back far enough upon the physical conditions of life to be in a true sense an account of the origin of social life". And again (p. 223) he says "he (Plato) does not in the end find an ultimate *social* instinct in man," and yet once more (p. 224), "The account of the origin of society in the *Republic* leaves the end or purpose of the combination somewhat obscure," —a complaint which is somewhat remarkable, considering that Plato says in so many words that the end or purpose of the combination is the betterment of each through mutual help in the supply of needs and services. Such criticisms are doubtless due to current biological obsessions impelling people to search into the historical origins of things in the temporal order; but they involve a complete misconception of Plato's object and method. They have been sufficiently and decisively controverted by Nettleship in his *Lectures on the* Republic, in which he shows conclusively that Plato is giving a *logical* picture, not an *historical* narrative, is making a philosophical inquiry into the conditions of society or human life, not writing a natural history of its growth. His object is to show the absolute minimum of conditions of society as such—what you cannot do without, if you are to have society at all—and to show the principle of society, whether at its maximum or its minimum, is one and the same. It is not his intention to trace the progress *historically* of the evolution of primitive into civilised society like an anthropologist, *e.g.* the transition from the savage pack into the pastoral and agricultural communities, and so on. He is, in short, describing not the natural (in the sense of physical) conditions, but the moral and spiritual conditions of society as such, and showing how they express themselves in precisely the same manner at every stage of development, simple and complex, and how they are the presupposition of the transition from the simple to the complex.

Another difficulty is that raised by Glaucon that the State in its first stage (*πρώτη πόλις*) is only a 'city of pigs'. The objection has been echoed by commentators on Plato, and has constituted a standing difficulty. Whatever else Plato was thinking of, he was not thinking of eighteenth century dreams of returning to 'noble savagery' in the woods, nor of nineteenth century notions of progress, measured for the most part by standards of material comfort, still less was he making an excursion into materialistic sociology. Nor does

the passage represent a desire to indulge in a pretty picture or to find a stepping-stone for passing on to real business. The whole passage, in fact, is a striking rebuke to all attempts to identify moral and material values. As long, he seems to say, as you seek to discover justice in the outward or material aspects of society, or as belonging to any particular element, you will never find it. "Then where in it," he asks Adeimantus, "shall we find justice and injustice? with which of the elements we have noticed did they make their entry?" "I cannot see," replies Adeimantus, "how they came in, unless we find them somewhere in the mutual relations (or need) of these same persons." "Well," returns Socrates, "perhaps you are right. But let us consider the matter and not draw back. And first, let us consider what will be the manner of life of men so equipped" (pp. 371, 372). If language has any meaning, surely these words mean to suggest that justice is not the property or result of any particular aspect or element in the State. It is something comprehensive or universal, consisting perhaps in "a certain usefulness which its citizens have for one another". But as the truth of this is only dimly and hesitatingly realised, it may be worth while to see if justice can be found in the outward aspects of life—in other words, if it is a function of a certain standard of civilisation. The merest glance at such a society is enough to dispose of such a theory. You might as well seek for justice among pigs. And then the thought naturally occurs, well, if it cannot be found in a society where the simple healthy animal wants are satisfied, perhaps it is more likely to be found in a society equipped with all the resources of civilisation. But analysis soon shows that justice is not a matter of one grade of civilisation or another. It is not an affair of externals—it is a principle of life and health for the social organism as such at all stages of its development, not a function or effect of any particular part or state of it. Or, we might put the case thus: Plato means that however far you go in your analysis of society, you can never reach a stage in which justice is not there also. The sophistic theory was, on the contrary, that if you carried your analysis of society far enough backwards or downwards, you would come to a state of things in which justice was not to be found. Before or below the social contract they imagined there was no such thing as justice. But Socrates shows that society is a contract from the very beginning. You do not find human society first, and then a contract,

which modifies it, but the two emerge simultaneously, being in fact one and the same thing, and justice is inherent in it, in fact *is* it. According to the Sophist, the social contract makes justice: according to Socrates, justice makes or is the social contract. "I do not care," Socrates suggests, "how far or how deep you go in your analysis of society; you may come to a state in which man is little better than the animals, a state which is to all intents and purposes 'a city of pigs'. Still even there, in that lowest, most primitive, and most material state, justice is the life blood, the principle and possibility of its existence. You may take society to pieces as much as you like, and reduce it to its simplest elements, but you will find that, without justice, they have no life or health, just as much as when society is in its most developed, most civilised and ideal condition. You may, if you like—and I do not object—represent society as a combination of the fewest possible atoms actuated solely by the desire of doing what is best, each for himself, but you will have to admit that without justice those human atoms will never form a social world. So long as they form a social world at all, justice must be the spring of action in every individual."

Another difficulty is raised by Gomperz (*Greek Thinkers*, iii., p. 65), who points out how the genetic method yields place to ideal construction. "So it was," gives place to "so it ought to be," a transition, which he says is of far-reaching consequence. When we remember that Plato is in the first stage of the argument asking himself what is involved in society as such, what society must have or imply that it may be a society at all, we see at once that there cannot be any question between the actual and the ideal. The πρώτη πόλις is no more actual than the δευτέρα πόλις or the τρίτη πόλις. His state is ideal from beginning to end. What he is seeking to demonstrate is the principle of what society is according to nature, *i.e.* the idea of society at its best, and what this principle means, if it is applied with absolute fidelity. The ideal nature of the society becomes clearer, as its development advances; but it is no less present, though dimly seen, in the initial stages of the society. Without the principle, you cannot have society at all. If the principle is impeded in its operation, you may have a kind of existence which falls short of society's true nature. But with it and with it in unimpeded activity, you must have the ideal. And it is ideal, because natural, true to nature and the norm or standard of what is best. To reach the best possible, Socrates is quite content with the Sophists to

go "back to nature". But whereas they find a universal anarchy, which on their own confession has no elements of permanence, he finds *κοινωνία* and an already operative idea of good, which in society is justice (*μεταδίδωσι δὴ ἄλλος ἄλλῳ, εἴ τι μεταδίδωσιν ἢ μεταλαμβάνει, οἰόμενος αὑτῷ ἄμεινον εἶναι*, p. 369).

II.—THE INFLUENCE OF MATHEMATICAL CONCEPTIONS ON BERKELEY'S PHILOSOPHY.

By G. A. Johnston.

That Berkeley was keenly interested in mathematics is well known. In the *Commonplace Book* a great deal of attention is paid to mathematical questions; it is noticeable, indeed, that Berkeley refers in its pages to mathematicians far more frequently than to philosophers. The extent of his interest in mathematics is indicated also by a group of early writings, *Arithmetica absque Algebra aut Euclide demonstrata*, and *Miscellanea Mathematica*, which includes papers, "de Radicibus Surdis," "de Cono Aequilatero et Cylindro eidem Sphaerae circumscriptis," "de Ludo Algebraico," and "Paraenetica quaedam ad studium matheseos praesertim Algebrae". Both these tracts were written in 1705 and first published in 1707. Belonging to the same period is the essay *Of Infinites*, which deals in part with the infinitesimal calculus. Berkeley deals also with mathematical questions in *The Principles* (1710) and in *De Motu* (1721), and his criticisms of the principles of the calculus in *The Analyst* (1734) and *A Defence of Free-thinking in Mathematics* (1735) are of some importance in the history of mathematics.

In this paper I do not propose to say anything of Berkeley's mathematics as such: what I wish to do is to indicate two respects in which his philosophy was affected by mathematical conceptions.

It is fairly clear that the conceptions of mathematics exercised on Berkeley's mind the same sort of influence as the idea of evolution exerted on the philosophy and literature of the second half of the nineteenth century. When Berkeley began to write, at the beginning of the eighteenth century, mathematics was *the* science. Mathematical work of all kinds had been encouraged by the wonderful results progressively achieved in the previous century and particularly in the immediately preceding two or three decades. Mathematics was revolutionised in 1637 by Descartes' discovery of the so-called cartesian or analytical geometry. The work of

Descartes and Cavalieri, who, following Kepler, developed the use of the principle of indivisibles, was extended and systematised by Wallis, Professor of Geometry at Oxford, in a series of important works extending from 1656 to 1686. The next great advance in mathematics was made when the fluxional or differential calculus was invented almost simultaneously and probably independently by Newton and Leibniz. These and other mathematical discoveries, whose importance was only coming to be fully realised when Berkeley was beginning to write, led to the entire reconstruction of the science, and rendered possible the further extremely rapid progress of pure mathematics and its application to the world of nature in mechanics and physics. At that time the place of mathematical and physical science was almost exactly similar to that occupied 150 years later by biological conceptions. One or two illustrations will help to give point to the analogy. When Richard Bentley was appointed to give the first course of Boyle Lectures on the Being of God, he wrote to Newton for instructions how to read the *Principia*, and in his lectures he applied the conceptions of the *Principia* just as theologians of later date applied the conception of evolution in their apologetics. Again, Locke, in spite of mathematical incapacity, assimilated as best he could the argument of the *Principia*, after having carefully inquired whether the mathematical calculations which he was unable to follow might safely be accepted. Mathematical conceptions form the warp and woof of the thought of the day; and Berkeley, like everybody else, was exposed to their influence.

At two points, one of them of central importance in his philosophy, Berkeley attempted to "apply" mathematical conceptions. By making use of comparatively recently discovered methods of calculation by signs and symbols he sought to give an explanation of nature and its laws by means of the relation of sign and thing signified, and thus establish an Algebra of Nature; and he endeavoured to develop an Algebra of Ethics by applying algebraic methods to the problems of morality.

To take first the Algebra of Nature. According to Berkeley's well-known theory, the relation between cause and effect in nature is a purely arbitrary one. Cause and effect are connected by no necessary tie; they bear to one another merely the relation of sign and thing signified. By experience we learn that such and such ideas are followed or attended by such and such other ideas; certain sequences and concurrences occur regularly and uniformly. The pre-

ceding ideas are not, Berkeley avers, the *causes* of the subsequent ideas; they are merely the *signs* that warn us that they will be followed by certain other ideas. Thus Berkeley's theory of causality becomes a doctrine of signs.[1]

This doctrine of signs occupies a highly significant place in Berkeley's philosophy. "I am inclined to think," he says, "the doctrine of signs a point of great importance and general extent, which, if duly considered, would cast no small light upon things, and afford a just and genuine solution of many difficulties."[2] In particular, he makes use of the conception of signs in his theory of vision and in his account of universality in knowledge. But though the importance of the doctrine of signs to Berkeley's philosophy has been very generally recognised, it has never been made clear, so far as I am aware, that the use of signs in mathematics did much to suggest to Berkeley, or at least to confirm his belief in, the importance of a metaphysical theory of signs.

It must be remembered that Berkeley's great object, as he tells us again and again, is to simplify philosophy and "abridge the labour of study". Now, in mathematics it is the great function of signs to abridge the labour of study and to simplify methods and explanations. This function of signs is apt to be overlooked by us, for we take the use of signs in mathematics simply as a matter of course, and should be unable to conceive a mathematic without signs. But in Berkeley's day the extended employment of signs in mathematics was still almost a novelty, and he takes pains to point out the value of those branches of mathematics which are specially concerned with signs in the simplification of the sciences. "Modern algebra," he says, "is in fact a more short, apposite, and artificial sort of language."[3] Now, philosophy has always suffered, Berkeley believes, from the ambiguity and unsuitability of the language with which it has been forced to work. What advances, then, might we not hope for, if we could employ in philosophical investigation a perfectly determinate and suitable terminology? Such a terminology, Berkeley hoped, might be supplied by signs akin to those of algebra. Algebra is *par excellence* the science of signs, and, according to Berkeley, a little attention to algebra and the way in which it uses its signs "may possibly help us to judge of the progress of the mind in other sciences; which, though differing in nature, design, and object, may yet agree in the general methods of proof and inquiry".[4]

[1] In Locke's classification of the Sciences (*Essay*, IV., xxi.) the third division of knowledge is termed "Σημειωτικὴ or the doctrine of signs".

[2] *Alciphron*, ii., 343. [3] *Ibid.*, ii., 344. [4] *Ibid.*, ii., 342.

It is possible to realise the impression made upon Berkeley's mind by the conception of signs only if we keep in view the way in which, shortly before his day, signs had come to be used in mathematics and especially in algebra. I shall therefore give very briefly an account of the development of the use of signs in mathematics in the decades immediately preceding the time when these problems began to occupy Berkeley's attention.

The first signs to be used were naturally those of addition and subtraction (+ and −); yet even these were not generally accepted symbols till about 1630. And it was much later before uniformity was reached in the use of the other chief signs. From 1631 onwards English mathematicians used the sign × to denote multiplication, but many French mathematicians, following the usage of Descartes, indicated the operation by a dot. And it was denoted by Leibniz in 1686 by the sign ⌒. A similar lack of agreement existed as to the symbols with which to represent division. It was usually indicated by the method, copied from the Arabs, of writing down the quantities to be operated upon in the form of a fraction by means of a line drawn between them, in any of the forms a-b, a/b, or $\frac{a}{b}$. English mathematicians, however, frequently indicated it by a dot. In 1686 Leibniz used the sign ⌣. The symbol = for equality was not commonly used till the time of Newton; previously the word was written out fully, or the signs ∝ or ∞ were used. The sign :: to denote the equality of two ratios was brought into common use by Wallis in 1686. The relations *is greater than* and *is less than* were, at the beginning of the eighteenth century, indicated either by our present signs > and <, or by ⊐ and ⊏. The negative symbols ≠ for *is not equal to*, ⋭ for *is not greater than*, and ⋦ for *is not less than* had not been introduced in Berkeley's time. The use of indices to denote the power to which a magnitude is to be raised had only comparatively recently become general. As early as 1637 Descartes used indices, but only positive integral ones, *e.g.* a^2, a^3. In 1659 Wallis used and explained fractional and negative indices, *e.g.* a^{-1}, $a^{\frac{1}{2}}$; and Newton was the first to use an index infinitely large, *e.g.* a^{∞}.[1]

Now practically all these signs, it must be repeated, were comparatively new in Berkeley's student days; and their

[1] The above account of the development of signs in mathematics has been derived from W. W. R. Ball, *A Short History of Mathematics*, p. 212 ff.; F. Cajori, "The Works of William Oughtred," in the *Monist*, July, 1915, p. 441 ff.; and M. Cantor, *Geschichte der Mathematik*, *passim*.

use had hardly yet become common. Still, it was already clear how wonderfully they had contributed to the progress of mathematics. They had enabled it to advance by simplifying its methods, for before they were introduced all mathematical operations had to be written out fully in words, and mathematical demonstrations, unless they could be represented geometrically, were cumbrous and tedious.

Berkeley himself was greatly interested in the use of signs in mathematics. In the *Miscellanea Mathematica* he indulges in a perfect orgy of symbols. The appendix resembles nothing so much as a few pages from Russell and Whitehead's *Principia Mathematica*. And he suggests, in the short paper, "De Radicibus Surdis" (1707), as a simplification of the usual method of representing surd quantities, the introduction of a new symbolic notation of his own. Roots, he points out, might conveniently be represented by Greek letters: β, for instance, would express $\sqrt{b}$, δ would stand for $\sqrt{d}$, and so on. Similarly $\sqrt{bc}$ would be written $\beta\kappa$, and $\sqrt{\frac{bdm}{e}}$ $\frac{\beta\delta\mu}{\epsilon}$. But he sees that, if this notation were adopted, it would not enable us to distinguish square roots from cube roots and those of higher powers; and he therefore makes the alternative suggestion that roots should be expressed by the same method of dots as was then used for fluxions, so that $\dot{a}$ would stand for $\sqrt{a}$, $\ddot{a}$ for $\sqrt[3]{a}$, $\dot{\ddot{a}}$ for $\sqrt[4]{a}$, and so on.

Worthless as this is in itself, it is of value for the light it throws on Berkeley's interest in symbols as such. He was interested in them because they were still so new that changes such as he advocated might yet be suggested with some hope that they would be generally adopted. But another consideration weighed with him. Though fifty or even twenty-five years before his student-days signs had been used by mathematicians with but little uniformity, they had already by the time he began to write become fairly standardised, so that the same symbols always and everywhere meant the same thing. This meaning was, indeed, arbitrary and artificial, but for Berkeley the important thing was that it was a definite and determinate meaning. And by the use of similar signs in philosophy he hoped to be able to introduce exactness and accuracy, and at the same time secure results which could be demonstrated so that all who agreed in the meaning of the signs would be forced to give assent to the conclusions. And finally, he expected that by such an application of signs in philosophy it would be possible to simplify it, and rescue it at once from the "meaningless subtleties" of the

Schoolmen, and from the "occult complexities" of the Cartesians.

When Berkeley speaks of the importance of signs, he is thinking specially of the use of signs in algebra. His interest in algebra is proved not only by his frequent references to it in his works, but also by the juvenile publication, *De Ludo Algebraico.* In this tract, after explaining the algebraic game, which he advocates on the characteristic grounds that it is both as pleasant a recreation as chess and a useful exercise in algebra, he concludes by making the most extraordinary claims for algebra. It may usefully be applied, he says, "to the whole extent of mathematics, and every art and science, military, civil, and philosophical". "Through all of these," he continues, "is diffused the wondrous power of algebra. By all it is regarded as a great and wonderful art, the topmost pinnacle of human knowledge, and the kernel and key of all mathematical science."[1]

After thus giving his own testimony to the value of the application of algebra in the sciences, Berkeley proceeds to appeal for confirmation to the evidence of Descartes, Locke, and Malebranche.[2] Unfortunately the passages in these philosophers to which Berkeley refers shed very little light on the *application* of algebra. Locke, whose *Conduct of the Understanding* Berkeley refers to, speaks very favourably of algebra, but he says nothing of the possibility of applying its methods directly to other sciences.[3] And Malebranche, to whom Berkeley also refers, though he expresses himself with more vigour and enthusiasm than Locke, does so with equal vagueness. He merely insists, as Berkeley does, on the ease and simplicity with which by means of algebra we are able to abridge the labour of study; and he declares that algebra, along with arithmetic, forms the foundation of all the sciences, and supplies the means by which they may be acquired.[4] The point on which both Malebranche and Locke insist is the value of algebra in *simplifying* the sciences in which it is applied.

In Berkeley's day the most notable example of the application of algebra in mathematics was supplied by the analytical geometry of Descartes. Descartes substituted simple algebraic methods, which could be applied universally, for a more or less cumbrous geometry requiring new constructions for each particular problem attacked. Analytical geometry gives us a method of representing

[1] *Works*, iv., 60. [2] *Miscellanea Mathematica*, iv., 62.
[3] *Conduct of the Understanding*, § 7.
[4] *Recherche de la Verité*, VI., i., 5.

curves and curved surfaces by means of simple algebraic equations. Instead of having to draw a special figure for each case of a problem, as we must do in ordinary geometry, it is only necessary to know the general equation to the curve, and any particular property may then immediately be deduced by an application of ordinary algebra. In this way the application of algebraic methods in geometry immensely simplifies what would otherwise be exceedingly complicated operations.

The possibility of applying algebra outside mathematics had occurred to many thinkers in Berkeley's day, and algebraic methods had been applied, often very foolishly and fantastically, to all sorts of problems. Berkeley himself notes its application in medicine and natural philosophy; and he refers, with evident appreciation, to the use that had been made of it in demonstrating the credibility of human testimony. As an example of this he gives a reference to an article in the *Philosophical Transactions of the Royal Society*; and it seems worth while, as an instance of the sort of "application" he considered feasible, to indicate the scope and argument of the article in question.

In this article,[1] which is anonymous, the writer considers the credibility of evidence. He examines, for instance, the reliability of the report that £1200 has been given to him by somebody. He assumes that the credibility of the average report is 5/6 absolute certainty, and that if it be at second-hand it will be $\frac{25}{36}$, *i.e.* 5/6 of 5/6, and so on. This may be stated algebraically as follows, if we put a for the share of certainty given by a single reporter, and c for what is lacking to make the certainty complete. The degree of certainty at first-hand is $\frac{a}{a+c}$, at second-hand $\frac{a^2}{(a+c)^2}$, at third-hand $\frac{a^3}{(a+c)^3}$, and so on. Other questions considered in the article are the credibility of oral tradition and the accuracy of written tradition involving several copies of the original document. In the same year as this paper appeared (1699) a book was published bearing a title copied from Newton (*Theologiæ Christianæ Principia Mathematica*), and dealing with the same problems as the article. The author of this book, who may also have been the writer of the article, was one John Craig. He calculates by mathematical methods that the evidences of Christianity, gradually deteriorating, will be

[1] "On the Credibility of Human Testimony," *Philosophical Transactions*, 1699, vol. xxi., No. 257, p. 359.

reduced to nil in 3150 A.D., and that a new revelation will then become necessary.

Berkeley avoided the absurdities and extravagances of such "applications" of algebra, but he was actuated by the same spirit in his attempts to apply algebraic methods to the relations of signs in Nature.

Just as algebraic signs suggest to us, or enable us to infer,[1] the things they signify (*e.g.* from the collection of signs $x^2 + y^2 = c^2$ we infer, according to the cartesian system, a circle with its centre at the origin), so the signs which we see in Nature suggest to us, or enable us to infer, the things they signify. Thus, to use Berkeley's illustration, a fire which I see suggests to me, or enables me to infer, that if I approach too near to it I shall suffer pain.[2] Similarly, the noise that I hear suggests to me, or enables me to infer, that some sort of collision or concussion has taken place.

The relation between the sign and the thing signified is not necessary. The sign does not immediately and inevitably suggest the thing it signifies; the relation between them must be learned. To the savage the group of signs $x^2 + y^2 = c^2$ does not immediately suggest a circle; the expression suggests a circle only to the man who has learned the relation between sign and thing signified. So, the fire does not necessarily suggest pain; it suggests pain only to "the burnt child," only to the person who has learned the relation between the sign and what it signifies.

But though the relation is not necessary, it is uniform. It is uniform—to use a modern term which well expresses Berkeley's meaning—within a certain universe of discourse. Within the universe of discourse of cartesian geometry $x^2 + y^2 = c^2$ uniformly enables us to infer a circle, and within the universe of discourse of the Earth fire uniformly enables us to infer pain if we approach too closely.

But Berkeley insists that the relation is an arbitrary one. The choice of the particular group of signs $x^2 + y^2 = c^2$ to represent a circle is perfectly arbitrary. Yet it always enables us to infer a circle, because there is universal agreement among mathematicians as to the meaning of these signs. Similarly, the relation between fire and pain is arbitrary, but the latter always allows us to infer the former, because it has been so decreed by God. It is due to the arbitrary though not capricious will of God that certain natural signs always suggest certain natural things signified. The connexion is purely arbitrary.

[1] Between *suggestion* and *inference* there is an important epistemological distinction. See Berkeley's *Theory of Vision Vindicated*, § 42.

[2] *Principles*, § 56.

And this, Berkeley argues, is all we mean by causality. Causality is not the relation of cause and effect, it is the relation of sign and thing signified. The fire that I see is not the *cause* of the pain I feel on approaching it too closely, it is the *mark* or *sign* that forewarns me of it.[1] Similarly, the noise that I hear is not the *effect* of the collision, but the sign that enables me to infer that a collision has taken place. The sign may thus be either what is commonly called the cause or what is commonly called the effect. If it is the "cause," it suggests, as the thing signified, the "effect"; and if it is the "effect," it suggests, as the thing signified, the "cause".

Berkeley thus implies the strict correlativity of "cause" and "effect," and with such a doctrine as the plurality of causes he would have no sympathy. Every sign in Nature is correlated by God with some one thing which it signifies; there is a pre-established harmony between them, and, as the sign strictly suggests only the one thing signified, so the thing signified suggests only the one sign. A thing signified cannot be signified by a plurality of signs; it is suggested only by its own proper sign.

Nature is systematically organised by God so that signs and things signified preserve this one-one relation. As the Language of Nature—to use Berkeley's own phrase—is a perfect language (for it is the language of God), each word in it stands for some particular thing or idea, and each thing or idea in the universe has its appropriate and particular name. Thus, in the mind of God, Nature is absolutely systematic, and signs and things signified are perfectly adjusted. This divine language constitutes, for Berkeley, the system of the laws of Nature. The language of Nature reveals a "consistent uniform working," and shows that its laws are "connexions established by the Author of Nature in the ordinary course of things".[2] These laws of Nature, representing a pre-established connexion in the mind of God, are absolutely settled and fixed, and in accordance with them everything in Nature takes place with perfect uniformity.

Now, as Berkeley points out, men often doubt the uniformity of Nature and the universality of its laws. The reason for this is that the laws of Nature are not self-evident. They need to be learned, and the universe may well seem to be a chaos before we have learned its meaning. This meaning is not supernaturally revealed to us at birth. God, it is true, excites in us from time to time certain ideas which are

[1] *Principles*, § 65.
[2] *The Theory of Vision, or Visual Language Vindicated*, ii., 398.

connected by set rules in his mind, but he does not explain their connexion to us all at once. We must learn by experience, we must acquire God's notation, as we have to learn that of Leibniz and Newton. We understand the laws of Nature, "the set rules or established methods wherein the mind we depend on excites in us the ideas of sense,"[1] only when we are able to interpret God's symbolism, just as we understand the theorems established in the *Principia* only when we are acquainted with the notation which it employs. Hence it is the great task of science to try to understand the divine symbolism. "It is the searching after and endeavouring to understand this Language (if I may so call it) of the Author of Nature that ought to be the employment of the Natural Philosopher."[2]

In the process of seeking to understand this divine language of the laws of Nature we may often attain some knowledge of the sign without fully or exactly comprehending what it signifies. The sign may suggest *something* to us, and we may be able to make use of it, though we may be quite unable to formulate precisely what it does suggest. Here again the analogy of mathematics makes Berkeley's meaning clear. Such signs or groups of signs as $\sqrt{-1}$ and π mean something, and may be used in mathematical operations, though it is impossible to express numerically exactly what they suggest. So, even though it be impossible to explain precisely what certain signs in Nature suggest, we may make use of these signs, and may indeed maintain that, though we cannot formulate them exactly, there *is* something that they suggest.

But in general we *are* able to learn by experience the precise relation between sign and thing signified. God follows certain rules in the organisation of Nature, and, as men succeed in discovering these rules, the relation of sign and thing signified becomes ever clearer. God creates certain organisms in much the same way as men combine letters in words and words in sentences. As the relations of words are clarified when they appear in sentences, so the relations of things are elucidated when they are seen in their proper context as elements in machines or organs in organisms.[3]

The question may be raised, why, if God is the ultimate and omnipotent cause, he requires organisms of complex structure to produce effects which he could equally well have created by a single fiat of his will. To this question Berkeley's answer is that all the elaborate organisation and mechanism is "for our information". It is not necessary

[1] *Principles*, § 30. [2] *Ibid.*, § 66. [3] *Ibid.*, § 65.

for the production of the effects themselves, but it is essential in order that they should occur "according to the laws of Nature".[1] Things must be produced by God by the same methods and in accordance with the same processes, in order that we, perceiving the appropriate signs, may have due warning that the things signified will follow.

Thus the two functions of the laws of Nature or the methods of God's operation are (*a*) to guarantee the uniformity of experience, and (*b*) to enable us to use foresight for the benefit of life. Without these two conditions of experience knowledge and action would be alike impossible. But, as it is, we are able to acquire scientific knowledge of Nature, to pass judgments of value on actions, and to predict the future with sufficient accuracy to make practical activity fruitful.[2]

In all this Berkeley is oscillating uncomfortably between a theocentric and an anthropocentric view of the universe. From the point of view of knowledge the balance dips towards the theocentric theory, but in regard to practice Berkeley is decidedly anthropocentric.

On the one hand, the reality of the universe is due entirely to God. From the human point of view the laws of Nature by which the world is governed seem to have no reality. They are simply convenient names which indicate the regular order with which in our experience sign and thing signified constantly occur. A law of Nature is not even a category which *we* apply.[3] It is nothing but an arbitrary relation devised by God for our information. But the apparent unreality of the laws of Nature vanishes when we survey them *sub specie aeternitatis*, for as thus conceived they exist in the mind of God and have perfect reality; they are not only real but the forms in which all reality exists. From the point of view of knowledge the world is necessarily theocentric.

On the other hand, from the practical standpoint, the centre of the universe is man. Though God is the ultimate cause, and acts always in accordance with his own will, all his activity is directed to secure the greatest value for life to finite persons. He goes to the trouble of putting countless cogs in machines, and innumerable organs in organisms (all from his point of view useless), solely for the benefit of life of finite spirits. The whole universe is benevolently ordered by God for man's advantage; and thus, varying a well-known title, we may say *servus servorum Deus*.

We now turn to Berkeley's application of mathematics in ethics. That the possibility of an Algebra of Ethics was

[1] *Principles*, § 62. [2] *Ibid.*, § 62. [3] *Ibid.*, § 66.

suggested to him by Locke is made clear in the *Commonplace Book*. "*N.B.*," he says, "To consider well what is meant by that which Locke saith concerning algebra—that it supplies intermediate ideas. Also to think of a method affording the same use in morals, etc., that this doth in mathematics."[1] Now, Locke had himself given a hint of the way in which mathematical methods might be followed in a demonstrative moral science. According to his theory of knowledge, certainty means simply the agreement or disagreement of our ideas, and demonstration consists in making clear that agreement by employing intermediate ideas or mediums. In mathematics algebra had been of use in supplying these intermediate ideas, and Locke is inclined to think that by applying algebra in ethics a demonstrably certain system will be produced. "I doubt not," he says, "but from self-evident propositions, by necessary consequences, as incontestable as those in mathematics, the measures of right and wrong might be made out."[2] For Locke mathematics and ethics alike are pure *a priori* sciences, independent of the matter of fact of experience. If they had to do with concrete experience, they would consist of (*a*) simple ideas, or (*b*) complex ideas of substance, and in neither case would the science be demonstrative, for (*a*) simple ideas give us knowledge that is "barely particular," from which no universal propositions can be inferred, and (*b*) the general knowledge we gain from complex ideas of substance is "merely probable".

Berkeley never worked out his algebra of ethics. But he said enough to show that his system would have diverged widely from that of Locke. The difference between their theories of ethics would have been exactly parallel to that which throws into such marked contrast their theories of mathematics. For Locke mathematics is a pure science dealing with relations of universal ideas, and abstracted from all concrete existence. On the other hand Berkeley holds that mathematics is essentially practical. The speculative parts of mathematics, which are concerned with *difficiles nugae*, are cut away by the New Principle, and only those portions of arithmetic and geometry and algebra that are "useful" and "practical" will remain.[3]

In precisely the same way Berkeley's theory of ethics differs from Locke's. For Locke ethics is a pure science, having as its subject-matter relations of ideas, and omitting all question of the realisation of these ideas in the concrete

[1] *Works*, i., 40. [2] *Essay*, IV., iii., 18; *cf.* III., xi., 16.
[3] *Cf. Principles*, §§ 121, 131.

matter of fact of moral experience. But Berkeley's view is very different. Ethics is an applied or practical science: it is concerned throughout with actual conduct; and its subject-matter is moral experience. And its great aim is the improvement of conduct and the advancement of the good cause of the world. Hence, though algebra may be regarded from one standpoint as a pure science, since it deals with signs in abstraction from the things that they signify, the algebra of ethics, being concerned with actual moral experience, must be a department of applied mathematics. That is what Berkeley means by saying, "Morality may be demonstrated as mixt mathematics".[1]

Berkeley agrees with Locke that ethics is a demonstrative science. But by that he does not mean, as Locke would have said, that its demonstrability consists in proving relations of ideas by means of intervening ideas.[2] In Berkeley's view, ethics is not concerned with ideas at all, but with marks or signs; and it is by means of these words or signs that it must be demonstrated. "We have no ideas," he asserts, "of virtues and vices, no ideas of moral actions."[3] In other words, we can neither perceive nor imagine virtue or vice in abstraction from concrete virtuous and vicious actions. Thus, if the demonstrability of ethics depends on the consideration of relations between ideas, as Locke maintained, Berkeley fears that it will be impossible to arrive at demonstrative truth in ethics; and he insists that those who agree with Locke that we may have ideas of morals have given themselves, in the demonstration of ethics, an impossibly difficult task.[4] It is impossibly difficult, because we can have no certainty about ideas, as Locke supposed, but only about words.[5] We may, indeed, *reason* about ideas, but by doing so we shall never attain demonstrative certainty, for "demonstration can be only verbal".[6] Perfect demonstration, that is, is possible only when we are dealing with words or signs. And Berkeley states as his conviction that "to demonstrate morality it seems one need only make a dictionary of words, and see which included which".[7]

This utterance in itself is perhaps rather cryptic, but, if we bear in mind Berkeley's general view of the applicability of algebra in the various departments of knowledge, its meaning becomes plain. In his view algebra is "purely verbal" and "entirely nominal"; [8] it deals with relations of arbitrary signs, and when they are employed demonstration is possible

[1] *Works*, i., 46. [2] *Ibid.*, i., 40-43. [3] *Ibid.*, i., 36. [4] *Ibid.*, i., 38.
[5] *Ibid.*, i., 43. [6] *Ibid.*, i., 50. [7] *Ibid.*, i., 39. [8] *Ibid.*, i., 47.

because there is uniformity in their use. Though they are arbitrary, their meaning is universally agreed upon, and therefore demonstration by their means is of absolute cogency. Now, words are not so well suited for demonstration as signs, because there is not universal agreement as to the meaning of words. Mathematicians are universally agreed on the meaning of such signs as + and −; but the meaning of the word "truth" or "good" is not a matter of universal agreement. But Berkeley believed that this was not a fatal or ultimate defect in words. It was only in the last half century before he wrote that mathematicians had attained uniformity in the use of signs, and he hoped that it would soon be possible to reach similar agreement as to the use of words. To this end it would be necessary to make a universal dictionary, whose definitions would be sufficiently authoritative to command universal assent. If the meaning of words were settled, propositions in ethics would be demonstrated as readily as propositions in mathematics. It is universally agreed among mathematicians that such propositions as

$$2 + 2 = 4$$
$$\text{or } \log (1 + x) = x - \tfrac{1}{2}x^2 + \tfrac{1}{3}x^3 - \tfrac{1}{4}x^4 + \ldots$$

are true.[1] In these cases the meaning of all the terms used is a matter of universal agreement. And if similar agreement existed as to the meaning of words, then such ethical propositions as "Man is free" and "God ought to be worshipped" would be universally admitted to be true, for they would be absolutely demonstrable. The latter proposition, for instance, would be readily demonstrated, as Berkeley says, "when once we ascertain the signification of the words God, worship, ought".[2]

Berkeley's former example of a demonstrable proposition in ethics supplies a good illustration of what he means by saying, as he frequently does, that ethics deals with the relation of *inclusion*. He mentions that it is part of the task of demonstration in ethics, after we have compiled our universal dictionary, to see which words *include* which. And elsewhere in the *Commonplace Book* he points out that ethics is concerned with "definition, or inclusion, of words,"[3] and that it deals with "signification, by including".[4] What he means by this is that if we take such a

[1] This series was discovered independently in the seventeenth century by Mercator and Saint-Vincent, and though it was not used as an example by Berkeley it serves well to indicate his meaning.

[2] *Works*, i., 41; *cf.* i., 32. [3] *Ibid.*, i., 55. [4] *Ibid.*, i., 37.

proposition as "Man is free," it is possible to demonstrate it when we know that "free" is included in "man". Given definitions in our universal dictionary such that the definition of "free" is comprehended within that of "man," and the proposition "Man is free" is universally demonstrable. In this theory of the nature of inclusion Berkeley has been influenced by mathematical analogies. The expression $\log (1 + x)$ includes the series $x - \frac{1}{2}x^2 + \frac{1}{3}x^3 - \frac{1}{4}x^4 \ldots$ The series is analysed out of it. So, Berkeley believes, by an application of mathematical methods in ethics we shall be able to demonstrate relations of inclusion and exclusion between words.

Berkeley's mathematical theory of ethics is in harmony with his general philosophical position. For, according to his theory of knowledge, we reason on a particular which stands for all other particulars of the same kind. As representing other particulars it becomes a sign, and performs the functions of universality. But Berkeley insists that this function is not an idea, and he objects to Locke's theory of ethics on the ground that the abstract ideas which he had posited do not exist either in mathematics or in ethics. It is impossible, Berkeley has shown, to frame an abstract idea (which means, in his terminology, an abstract concrete percept or image) of triangle. Equally impossible is an abstract idea of justice. In ethics we are never concerned with the abstract, but always with particular instances of just or unjust actions. What we do is to take this or that just act, ignore all irrelevant features, and make it stand for all other just acts. On these particular cases we may reason in precisely the same way as we do in mathematics. In mathematics we give names to these particulars, and these names or signs are universal, or rather, perform the functions of universality. Similarly in ethics signs are used, these signs being words and not ideas.

The only obstacle mentioned by Berkeley in the way of such a science of ethics is the very great difficulty of reaching agreement with regard to its definitions. The definitions which mathematics employs are not questioned, because the student comes to them with no preconceived ideas or prejudices. He is willing to take them on trust. But in ethics it is otherwise. Men approach the subject with pre-suppositions of their own, and, clinging to these primitive convictions, they refuse to come to any agreement in the definition of terms.

One very real difficulty which Locke raised is denied by Berkeley. Locke pointed out that the complexity of moral

ideas increases the difficulty of dealing with them on the mathematical method. But in this difficulty Berkeley sees nothing. Yet if we extend the term "complexity" to include the relations and context of moral experience,[1] the difficulty becomes a very pertinent one. On Berkeley's theory, if we take a particular triangle it is possible to abstract what is irrelevant to its triangularity, and the particular may be taken to stand for or represent all other particulars of the same kind. And, as we have seen, Berkeley thinks the same thing may be done in ethics. But, of course, it is not thus possible to isolate a particular just act. If it be cut loose from its context, it may no longer be a just act, for its justice may consist precisely in the complex relations in which it stands to its environment. But though Berkeley was not aware of this difficulty in the days of the *Commonplace Book* it is clear from *Alciphron* that he came to appreciate it later. And this may well have been one of the reasons why he abandoned the project of writing a mathematical treatise on ethics.

[1] This involves a departure from Locke's meaning of the term.

III.—DREAMS AS PSYCHICAL EXPLOSIONS.

By J. C. Gregory.

Dreams, as is generally recognised, often, if not always, disturb our sense of time's duration, and this disturbance is only definitely known to act in one direction. A dream may pass like a flash and appear to last for days. There is no evidence that a dream can last throughout sleep and seem to occupy a second. Whenever the circumstances are such that we can estimate the time actually occupied by the dream and the corresponding interval through which we seem to live the dreaming mind exaggerates and never reduces. This might be due to our inability to gauge the actual duration of dreams except in certain cases where it is obviously very short. We wake with the sense of duration impressed upon us by the dream and, unless there are adequate means for estimating its real length, this impression is our only possible estimate. If we dream of the events of years we may suspect that we have exaggerated an interval that cannot have lasted for more than about eight hours. Dreams, however, frequently resemble the separate scenes or acts of a play rather than a perfectly continuous narrative, and, just as a drama may cover fifty years in three hours, a dream may only last for a night and yet, without any real disturbance of the sense of time, represent a life-time. The more usual inference would be that the dream really lasted longer than it seemed. It is comparatively rare for dreaming to appear greatly protracted and very often it is composed of one incident—a snap-shot as it were. Blowing one's nose, even with the characteristic dream difficulty of finding the handkerchief, could be easily managed in a dream of eight hours. Since it is usually impossible to say whether the dream really persisted throughout sleep or occurred during the last second there remains no means of estimating its actual duration except the impression of time made upon the mind. The natural impulse, doubtless, is to regard dreams as lasting as long as they appear to last. In studying dreams there is the additional tendency to regard the whole period of sleep as the actual period of dreaming.

In one particular type of dream, however, the actual process is obviously very short and its apparent duration relatively long. This happens when a disturbance at once awakens the sleeper and produces a dream. In a dream of this character the victim raced into a station to catch a train that was just starting. He reached the platform and as he arrived at each open carriage door it banged to. He woke to hear the loud shutting of the house door. The sound of this shutting evidently originated the dream and, since he woke rapidly enough to hear the actual closing, the dream must have passed much more rapidly than his experience seemed to last. In Maury's well-known dream he lived through some stirring scenes of the Terror and woke as the knife of the guillotine was descending on his neck. The curtain-pole of the old-fashioned four-poster bed had fallen on his neck—simultaneously awaking him and inducing a blood-curdling dream. Here again the dream must have been instantaneous though it appeared as a much longer series of incidents. There are so many dreams on record in which the disturbance that awakes is obviously the origin of the dream that coincidence (the curtain-pole CHANCING to hit Maury's neck as he dreamed of the descending knife) is out of the question. In these dreams the actual duration can be estimated and observed to be much shorter than it appears to the dreamer. In connexion with the drawing out of time that characterises consciousness in these dreams the position given to the originating stimulus is of interest. The impact on Maury's neck STARTS the dream but appears, or rather is due to appear, for the knife does not touch bottom, at the END. The sound of the closing door starts the dream but does not begin it, though it sounds repeatedly throughout the latter half. The dreaming mind seems to draw out time and draw it backwards. This inversion effect, the originating stimulus appearing at the end of the dream, is frequently observed in dreams of awakening by disturbance. The dream is practically instantaneous—all the incidents separated in time by the mind being really in consciousness together. During its imaginary extension in time of events really simultaneous the dreaming mind, so to speak, pushes back all experiences except the impression made by the originating stimulus, which it keeps tied to itself. This suggests that the disturbance of the sense of time is part of a sort of general convulsion—a view in keeping with the observed fact that an external stimulus explodes the dream upon the waker.

Dr. Gregory describes the case of a gentleman who was

unable to sleep in a lying position without a choking sensation. This sense of constriction regularly aroused a terrifying dream of a struggle with a skeleton that gripped his throat with its bony hand. He found that he could sleep in a sitting posture and adopted this plan of exorcising the phantom. A sentinel was stationed by his bed with instructions to wake him instantly if he should fall into the prone position. One night he slipped down and complained on being roused that he had not been waked promptly enough to prevent a long tussle with the skeleton. The sentinel asserted that he had been waked the moment he slipped. From the known circumstances it was evident that the dream seemed to be much longer then it really was. Here again the dreaming mind experienced a sense of duration in which the actual time was greatly magnified.

Lord Holland was one of a company when a book was being read aloud. At the beginning of a sentence he dozed off, and after a long dream awoke to hear the end of the sentence. This incident also indicates that when it is possible to estimate the real duration of a dream it is invariably found to be much shorter than it seems.

The usual explanation of this disturbance of the sense of time is very simple. We have the same sense of time in the dream that we should have had if the events really took place. Our experience of real life habituates us to certain feelings of duration in connexion with certain events, and when the dream persuades us that these events are occurring we feel towards them, regarding their duration, according to our usual habit. The dream of the aggressive skeleton was short, but, since a real struggle generally fills up some considerable time, the dreamer instinctively felt towards the dream as he would have felt towards the actual event. In so doing he would only carry to completion the process of imparting external reality to a mental process. Dreams are usually characterised by an ascription of reality to mental images and for this ascription to be complete the time-setting must bear some reasonable relation to actual life. In speaking of "the abolition of the sense of time in many of our dreams" Bergson remarks: "Our attention to this external and social life is the great regulator of the succession of our mental states. It is like the balance wheel of a watch, which moderates and cuts into regular sections the undivided, almost instantaneous action of the spring. It is this balance wheel which is lacking in the dream," and he adds that the dreamer "is no longer capable of that attention to life which is necessary in order that the inner may be regulated

by the outer, and that the internal duration fit exactly into the general duration of things". But surely the error of the dreaming Maury, as of the dreaming wrestler with the skeleton, is an over-scrupulousness of appeal to this balance wheel. If not his "attention to life" at any rate his memory of it makes him firm in the belief that the scenes of the dream are separated by long intervals of time. His fundamental error is mistaking mental pictures for actual events but there is no further failure in "the precision of adjustment that requires effort," for, granting that the scenes are actual, he times them correctly.

The preceding explanation quite recognises that attention to external and social life regulates the succession of our internal states, with the addendum that various successions become associated, through this regulation, with certain feelings or impressions of duration. It adds that when the dreaming mind mistakes rapid mental images for real events it completes the illusion by fitting them with their appropriate time-intervals. The disturbance of the sense of time is thus a measure of illusion rather than of a failure in the attention to life necessary to fit internal duration into the general duration of things.

It may be noted in this connexion that dreaming appears to confer an additional power of recalling impressions. It would be difficult to reproduce in memory, for example, the sensations experienced during the heaving of a boat. The writer can recall a dream of being in a tossing boat in which the characteristic sensations were vividly present. These particular sensations have a peculiar flavour of their own that brings out very clearly the enhanced power to reproduce the "feeling" element in dreaming. Judging from this dream, it would be possible to dream of toothache and actually experience the pain that real toothache would give. Ordinary waking memory is practically confined to remembering that we had toothache and the general circumstances connected with it—including the fact that we experienced pain—but is incompetent to reproduce the actual pain. Similarly, we cannot actually reproduce the peculiar sensations produced by heaving motion though we can remember having had them and recognise them when they are again experienced. The reproduction of the sense of duration, when the dreaming mind imagines itself in the thick of events that require it, would seem to be a similar extension of the power of reproduction in memory. The dreamer believes himself to be in a tossing boat and under the conditions of dreaming he succeeds in reproducing the sensations appropriate to the incident; in the

same way he succeeds in reproducing the appropriate sense of duration when the dream, though really lasting but a moment, is construed as real events normally requiring a more extended period.

But is either this explanation or Bergson's modification adequate? Dreaming is not the only condition that leads us to mistime events. Time passes quickly when we are interested and slowly when we are bored. Life, in one aspect, is a continuous alteration of the sense of duration. The year is long to the child and short to the mature man. Suspicion arises that our explanation must be supplemented by the recognition of some other alteration in the mind's sense of duration induced by the conditions of dreaming. It is a curious fact that Bergson's description of some of these conditions appears at first sight to furnish in a natural and inevitable way such a supplement—curious because, though his opinion of these conditions, on first thoughts, seems to fit the observed lengthening of time in dreaming, this opinion seems to be mistaken and the real supplement, so far as it may be needed, must be sought elsewhere.

Bergson describes the state of the dreaming mind as one of relaxation and he speaks of its being disinterested. "The dream consists of the entire mental life minus the tension," he says in one place, and in reporting an imaginary conversation between the waking and dream ego he makes the latter say, "I was doing nothing". "To sleep is to become disinterested" is no doubt correct, though the implication that dreaming is a condition of disinterestedness is not a necessary conclusion. He adopts it, however, and for him the dreamer is disinterested and mentally relaxed. Whenever we can trace the disturbing effect of dreams on the sense of time we find that time is lengthened. Bergson illustrates by the Maury dream and in this the dreamer magnified duration. Now we all know the occasion when we are mentally relaxed, disinterested, and prone to think time longer than it is—it is when we are bored. We supplement, therefore, and supplement by a natural logic, by partially ascribing the dreamer's lengthening of duration to boredom.

This strange conclusion has the excellent effect of leading straight to the detection of an error both on the part of Bergson and of a host of writers on dreams. It is doubtful whether any dreamer would ever describe himself as bored. Not Maury under the guillotine, not the man who ran for his train, and certainly not the gentleman who engaged in nightly scuffles with a skeleton! The class of dream in which, as a rule, it is only possible to be certain that time

has been lengthened is usually the most remote of all from boredom. When we dream through awakening by disturbance we generally dream most vividly and keenly. The dreamer who had a skeleton for his opposite would be astonished to hear that his mind was relaxed, and very sceptical about its disinterestedness. In this and in many other dreams there is a perfect riot of excitement, and the fundamental feature of all dreaming is fatal to the view that they are products of relaxation and disinterestedness. Dreams delude us into believing they are real, they grip us, and a really relaxed mind could neither grip nor be gripped.

It is plain that when a stimulus simultaneously wakes the sleeper and originates a dream this dream passes rapidly during the moment of waking. The dream then represents a sort of psychical explosion. The unconsciousness of sleep corresponds to complete mental relaxation, and the dream occurs as the mind springs forward from relaxation into activity. A sudden RISE of interest is involved in the procedure, and it is probable that the expanded sense of duration may be connected with this rise. Ennui and interest are not so sharply opposed that while the former makes time drag the latter ALWAYS speeds it up. The duration of moments of intense excitement tends to swell. A moment under the paw of the lion may seem more like an eternity. Since the RISE of interest, characteristic of such situations and dreaming alike, is present in both cases the resulting influence on the sense of duration may well be similar. Since in the dream the interest rises suddenly from nil it may well have a strongly marked effect on the perception of time. Explosive effects are characterised by an element of concentration, any dispersal being ultimately due to such preliminary concentration, and the sudden contentration of interest as the mind rapidly awakes will have the effect of appearing to spread out the really instantaneous dream through a longer interval of time. Analogies are provided by the psychical effects of shock. The sailor mentally traversed his life as he fell between the yardarm and the sea. There is no question here of relaxation or disinterestedness, but of a sudden and explosive rise of interest that expands the sense of duration during the experience. There is no difficulty in realising that if a real struggle with a skeleton were brief it would seem to the victim like a protracted struggle. The effect of the dream is not different in principle though it may be more striking in intensity.

In short we must supplement our explanation, if we are disposed to admit of supplement at all, by referring the dis-

turbance of the time-sense in dreaming to the expanding effect of a sudden or explosive rise of interest. So far from the dreamer who dreams through sudden awakening being without mental tension he is the theatre of a sudden increase in such tension. It is doubtless true that the dreamer, in accepting the reality of his dream, naturally inclines to distribute the scenes in time in a close imitation of the duration of real events. But since our sense of time is affected by the condition of the mind itself, as well as by reference to the external order, it is natural to suppose that the process of enlarging the instant of the dream into a period more appropriate to the incidents regarded as real is materially assisted by the sudden rise of interest that is known to be capable, under other conditions that are still comparable to those of dreaming in respect of explosiveness, of expanding the sense of duration.

It is now clear that it is an error to regard dreams produced by a disturbance that awakes as occurring during sleep or in a mind subject to the characteristic conditions of sleep. They occur explosively during the momentary period in which the mind springs from unconsciousness to its waking realisation of the world. The circumstances under which they arise clearly indicate this, and the condition of the mind when dreaming is in complete harmony with this origin. The disturbance of the time-sense, when analysed, has favoured this conclusion, and a further examination of the nature of dreaming will confirm it. Writers often ignore this feature in dreams of awakening by disturbance because they include them with the larger residue where it cannot be definitely asserted that they occur during the waking moment, and they then regard all dreaming as a phenomenon of sleep. They thus tend to ignore that dreaming is essentially characterised by a RISE of consciousness and consequently to ignore the implications of this fact. Since the circumstances of the dream through awakening are usually the most completely known they constitute the most natural norm for comparison. These dreams indicate a sudden and explosive rise of consciousness as the character and condition of their origin. By extending this principle to all dreams it will be found that they submit readily to the line of explanation suggested by it. Since a sudden rise of consciousness is inherently likely to destroy the state of sleep it is natural to conclude that most dreams occur during the moment of waking. This supposition will be found to afford the most complete and satisfactory interpretation of the nature and origin of dreams.

There would probably be little dissent from Bergson's

statement that the mechanism of dreams is that of normal perception. Democritus seemed to realise this when he attributed dreams to the attack of simulcra, or images of themselves constantly rained off by objects, upon the soul during repose. Since he explained visual perception in a similar way there can be little question that, though he held a different opinion regarding the nature of the mechanism, he agreed with Bergson and many modern writers in thinking that this mechanism operates similarly in normal perception and in dreaming. Democritus emphasised the element recognised in modern psychology as sensation. Aristotle, in attributing dreams to the recognition during sleep of previous impressions made *via* the outward sense, emphasised the element of memory. A combination of the two points of view is expressed in Bergson's description of a dream as a union between memory and sensation. Perception is also such a union but, whereas the percept is dominated and mainly determined by the sensations, in the dream the memory is master and moulds the sensations into pictures according to its fancies. Bergson, with his usual felicity of expression, has stated the operations of perception and dreaming in a manner remarkably adapted to manifesting the connexion between them. It is, therefore, the more strange that he should have so strangely misconceived many of the conditions that are responsible for the divergence of the dream from the usual character of perception.

From one point of view perception is a process of divining. Certain sensations impress the mind and a supplemental act of memory establishes a particular perception—thus assigning a more or less divined cause to the sensations. In reading we do not actually see every letter or even every word, but grasp the sentence from a limited number of impressions to which memory supplies the appropriate context. Thus, short sentences incorrectly spelt or arranged are read as if they were correct when arrangements are made to expose them briefly to the subject of the experiment. The proof-reader has to acquire the art of seeing each word separately and distinctly or he will pass many mistakes. Normally, memory provides the correct context because the impressions received through sensation are sufficient to prevent any serious mistake. The mind, assisted by memory, solves its problem correctly because the data are sufficient. If the data are insufficient an incorrect solution becomes more possible and it is thus that illusion is liable to arise. If a page of manuscript is torn or dirty or worn with age so that letters and words are obscure or obliterated, there is a tendency

to misread in proportion to the degree of obscurity or obliteration. The dreamer is in the position of the reader whose manuscript is reduced to a few irregular, recognisable letters or words, and his dream represents one of the many possible solutions of the puzzle. In a dream of the writer's he darted along a narrow alley and found himself between two gigantic horses. The animals stood with their hindquarters at right angles and the dreamer stood in the angle with a shoulder touching each horse. On waking, he realised that he was lying on his back with a distinct feeling of pressure in each shoulder. The waking perception perceived the situation correctly because any extravagant explanation of the pressure on the shoulders was ruled out by the sum total of impressions. During the hurried moment of waking, as the mind exploded into consciousness, only this feeling of pressure was distinctly perceived and, for the moment, contact with the hindquarters of two mammoth horses was as good an explanation as any other. A striking feature of the dream was the instant when the victim's shoulders were in contact with the two flanks. The sensation of touching was clear and distinct—as if the dreaming mind were meticulously careful that the only impression of which it was sure should be suitably accounted for. Bergson speaks of sense perception being extended and often less in energy in sleep—that is in dreaming. He adds also that memory as a formative agent only brings confused impressions. Now the above dream was surely due to restriction of information provided by the senses. The dream was, moreover, a perfectly correct interpretation of the data at its disposal. A position in the corner between the flanks of two horses, as represented in the dream, would have produced feelings of pressure on the two shoulders. The impression of pressure was too clear and decided for any loss of energy to be predicated. Nor could confusion, in any sense of indeterminateness, be truthfully said to characterise the incident. The dreamer realised his imaginary position only too clearly and his apprehension of being kicked to death was painful to the point of agony. The determining sensation was clear and definite in the mind and the dream no doubt owed its origin to this very clearness and definiteness. It is difficult to understand how such a dream could ever be interpreted on the supposition that the faculties were "relaxed and not in tension". Interest, and where there is keen apprehension there must be interest, would be practically nil under such conditions. The real difference between the dream and the waking perception may be expressed as a hurried inference from inadequate data.

The mind had been wrapped in the unconsciousness of sleep. Waking is a sudden process and there is a sudden spring from complete relaxation to waking realisation. It is during this rise of consciousness that the dream passes. The impressions from the external world are not all realised at once —a fact closely connected with the rapidity and explosive character of the whole process—and only the pressure on the shoulders is noted. Memory acts vigorously on the hint and supplies the context that composed the dream. It might even be said that the mind is more active than in ordinary life—possessing a sort of explosive excitement. There is activity, there is interest, there is sensation and there is memory —the uniqueness of the situation lies in the previous unconsciousness and the hurry that involves mental action before complete contact with the external world is re-established.

It is quite true, as Bergson asserts, that the mind does not create when it is really *asleep*. He is referring to Stevenson's "A Chapter on Dreams" and arguing that no really creative work has been done in an actual dream. "Creation," as Bergson here uses it, evidently implies value, but from a purely psychological point of view value is irrelevant. The dream of the struggle with a skeleton was a creation, a constructive imaginative effort, of the dreamer's mind. So was the imprisonment between the horses, so was Maury's famous dream, and so was the experience of the baffled passenger. These may not have the merits of a story by Stevenson, but they are creations and they are creations because they are the products of an active mind—though that mind is just bursting into activity as it awakes from sleep.

The incoherence of dreams is referred by Bergson to the lack of adjustment between memory and sensation. In accordance with his opinion that the dreaming mind is relaxed and disinterested, he regards this adjustment as imperfect because the mind is not active enough to demand it. It may be doubted, as Greenwood remarks, whether incoherence is so marked a distinction between dreams and waking life as many writers regard it. Conversation notoriously tends to the desultory. Eccentricity is another matter and it is important to distinguish it from simple incoherence. Eccentric solutions of inadequately stated problems are natural enough and if dreams be the hurried affairs that our theory supposes they will naturally tend to the eccentric. A dreamer, conscious only of a suffocating feeling, who has to explain his sensation in a fraction of a second, and is perhaps partially bewildered by the sudden change from unconsciousness to consciousness, may be pardoned for the eccentric supposition

that a skeleton has gripped him. With a mere dribble of real data, the more energetically the mind bursts into activity, the more likely it is to supply eccentric contexts. Bergson himself regards memory as boiling over or gushing forth like steam released from a boiler during the passage of the dream, and this accords better with the total explosive character here assigned to the dream than with the relaxed condition of mind he elsewhere upholds. So far as incoherence occurs, and it does, of course, occur in dreams, a similar line of explanation will apply. Some dreams appear to be a series of guesses at the context of a sensation, and since the possible guesses may be almost limitless they may well represent a somewhat motley series. So far as there is failure of adjustment between memory and sensation this is more naturally ascribed to inadequacy of data than to the inertia of the mind. The dreaming mind has to guess and guessing means activity. Guesses, of course, unless they happen to be correct, will not always be precise adjustments of context to the data of sensation. In point of fact the adjustment is often perfectly precise in dreaming. It was perfectly precise in the skeleton dream, for the solution fitted the one definite fact realised by the dreamer. The error did not lie in the inference, which was sound on the data provided, sound at any rate as an imaginative possibility, but in the inadequate grasp of the total situation—an inadequacy readily explained by the mind not yet being in its normal waking attitude towards the world.

In one respect the skeleton dream betrayed an imperfect realisation of the possibilities of reality. The dreamer forgot that skeletons are no longer on the active list. It is scarcely possible to compare such dreams to plays of fancy and imagination, such as storytellers delight in. Dreams are accepted as realities and this seems to rule out such line of explanation. The mammoth horses might be ascribed to a naïve imagination but it is quite evident that dreaming often exhibits a dislocation of the sense of reality and possibility. This dislocation is frequently a contributory element to the eccentric element in dreaming. Its cause may be summed up as temporary forgetfulness. Maury forgot that the Revolution was over. Dr. Gregory's patient forgot that skeletons cannot clutch, and the writer seemed to forget that horses are smaller than elephants. Now in the unconsciousness of sleep the mind loses all sense of reality whatever. The dream passes as consciousness once more establishes a rapid contact with the world of reality—mental and material. There is more reason for surprise in our ability to come to our senses so quickly than in the odd lapses of memory manifested during the process. A hurried attempt at solution,

even when awake, may omit many otherwise obvious factors. Relatively permanent lapses of memory of a very extensive order may occur in waking consciousness. Shock often initiates such losses; and, since waking is a recurrent form of mild psychical shock, it may well have the temporary effect of blinding the dreaming mind to possibilities or impossibilities. The suddenness of the dream limits the impressions it can receive from sources of sensation and it may well prevent, in a similar way, the full realisation of practical possibilities. It is only in this limited sense that there is any truth in Maury's view that dreams result from mental disorder. A mind deprived of its proper appreciation of possibilities and confined to a limited number of sensations will no doubt appear disordered, and the eccentricities of dreams reflect this condition. It may be noted that if the mind is thus disordered in its dreams and if dreaming consciousness extends over considerable periods of sleep, as some writers maintain, there is every likelihood that waking consciousness would strongly tend to be infected with irrationality. There can be little question that so long as dreams were not recognised as illusions by waking reflexion they did exert a marked perturbing influence on belief in possibilities. Primitive peoples usually regard their dreams as real events and dreams of the returning dead, to quote one instance, have undoubtedly helped to maintain the belief in resurrected spirits. Now the longer the period during which the dream consciousness maintains its grip, the more difficult it would be for the waking mind to resume its corrected version of the order of the world. A mind dreaming all night on the assumption that skeletons are animated would be likely to carry this belief into waking life. Dwelling upon ideas always tends to absorb the mind in them, and on the view that sleep is really a period of dream-consciousness it would seem difficult to explain the ease and rapidity with which waking consciousness asserts its conception of reality. The dreamer would be in the position of a waking mind subject to constant illusions for considerable periods—a condition very unfavourable for resuming rationality. It is different when we perceive that mental disorder is not so much the cause of dreaming as its effect, and temporary and fleeting like the dream itself. In breaking out of the unconsciousness of sleep the mind rapidly resumes, for the most part, its full contact with reality. During the establishment of this contact, as the mind springs forward in a sort of psychical explosion, some sensations may obtrude themselves and a hurried context is supplied to them from memory. There is a very active endeavour to order these sensations and memories, but in the rush and hurry there is,

or may be, for some dreams are rational enough, a temporary blindness to reasonable possibility. It may be that the memories and sensations will not adjust at all, and we awake without a dream or with impressions so vague that memory fails to carry them over into waking life. Bergson's failure of precision in adjustment is thus responsible for failure to dream, and the mind dreams to the extent that it succeeds in securing such adjustment. Frequently the mind succeeds in its effort of adjustment and the context derived from memory unites with the sensations to form a dream. Though really instantaneous, the pictured show spreads out in time under the intensity of the mind's action and the dreamer exaggerates its duration. Since the sudden rise of interest imparts reality to the dream this exaggeration is also assisted by the mind's endeavour, based on memory and association, to supply the appropriate time-setting—an endeavour that indicates an effort to accommodate to ordinary terms of reality. The dreaming consciousness may supply a context to its sensations that will satisfy the rationality of real life or it may fit its interpretation adequately to its limited external impressions but inadequately to reality as a whole. Sometimes it may be true that the only result is little more than a consciousness of confusion which may leave vague traces in memory, or none at all. But in the dream proper consciousness achieves a creation—a creation that bears all the marks of the active waking faculties of the mind, temporarily limited and moulded by the conditions of transition from unconsciousness to complete waking realisation.

It is possible that some dreams may be composed only of memory and be centrally initiated. The difficulty of proving that no sensation had access to the dreaming mind to provide peripheral stimulation is so great that such centrally initiated dreams must always remain conjectural. The "phosphenes," or sensations of light experienced when the eyes are closed, have been regarded by many as the sensational scaffolding on which the dream is built. This supposition, probably applicable to some dreams, shows how many and various may be the sources of sensation on which the dreaming mind may draw, and enforces caution in denying the action of any peripheral stimulus at all in connexion with any particular dream. Whether centrally initiated dreams occur or not it seems certain that some peripheral stimulus usually operates, if in such be included all stimuli due to some part of the body and perhaps even including disturbances in the brain itself, and that peripherally stimulated dreams are the most vivid experiences that beset the dreaming mind.

IV.—RETENTIVENESS AND DREAMS.

By Henry Rutgers Marshall.

Nothing goes farther to discredit a science than the inaccurate use of descriptive terms by those who devote themselves to its study; and it is almost with a sense of shame that one notes the constantly recurring, and really shocking, carelessness with which many of the leading psychologists of our time employ the term memory, when they mean to refer to mere retentiveness. It is a fault common to German, French, English and American writers; and instances are needless, for they will at once spring to the mind of the reader.

Retentiveness, as James Ward has said, is a physiological, as well as a psychological, fact. It is observed objectively, and only objectively. This is self-evident in relation to physiological retentiveness. It is not so clear in relation to psychological retentiveness; but becomes so when we consider that a mental item is recognised as a revival—that is as the exemplification of retentiveness—only by recall of situations in the past which we consider objectively, and judge must have been accompanied by the mental item we now recognise to be revived.

But Memory, on the contrary, is observed subjectively, and only subjectively. It is our name for a process which yields the psychical state we call *a* memory; which is a mental form that at times is given in connexion with revivals. A revival, if real, in past time, and *for me*, is a memory; just as a mental item (usually a revival), if real, in future time, and *for me*, is an expectation.

This distinction between memory and retentiveness is especially significant in relation to the studies of our dream life[1] which have been of late brought to our attention so urgently by Freud and his followers. The method of psychoanalysis which they employ deals primarily with retentive-

[1] Bergson for instance tells us (*Dreams*, p. 31) that "it is memories, and only memories, which weave the web of our dreams". What he thus calls memories are surely seldom more than revivals; some of which we are able, after the fact, to translate into memories.

ness, and not with memory. Revivals, induced by artificial means, are indeed often by this method made to appear in the form of memories; but this is by no means a certain indication that they point back to such actual occurrences in the past as they suggest. For we all realise how difficult it is for us in every-day life to avoid "illusions of memory" due to the artificial or fortuitous combination of revivals; and the practice in the examination of witnesses in our law courts shows us how easy it is to produce these "illusions of memory" by suggestion; a process to which the subjects treated by the psycho-analyst are especially susceptible.

In this study of this subject I shall ask the reader to review with me some more or less obvious facts in relation to retentiveness; and to take with me a special view which I find helpful in the elucidation of these facts, and which I shall be compelled to state in a manner that may possibly appear dogmatic; a risk that must be taken in the interest of brevity.

I.

1. It is generally agreed that our field of awareness corresponds with activities in some part of the brain system. This brain system is found to be a grand system of minor nerve systems; each minor system being itself a system of nerve systems of a lower order; until we reach the hypothetical simplest systems in which the elements are simple nerve cells.

2. The minor systems composing the brain system are of diverse orders; some being more significant than others in relation to the activity of the brain system as a whole.

In normal active life one of the major nerve systems

1*a*. The field of awareness, as observable in reflection is a grand system of minor psychic systems; each minor psychic system being itself a system of psychic systems of a lower order, until we reach the hypothetical simplest systems in which the elements systematised are what we may call psychic elements, which however cannot be looked upon as psychic atoms in as much as they exist, as such, only in the fact that they are systematised.[1]

2*a*. The minor psychic systems evidenced in reflexion are of diverse orders; some being more significant than others in relation to the whole psychic system given in awareness.

In normal active life one of the major psychic sub-systems

[1] *Cf.* my *Consciousness*, p. 14 ff.

usually dominates and controls the other minor systems of the brain system. Its form determines the form of the brain system's activity in any given moment.

So far as the activities of the other minor systems are harmonious with the nature of those of the main control system, they are assimilated by, and emphasised by, this latter. It not only controls, but it selects.

It may be assumed that this same characteristic is given within each of the minor nerve systems composing the whole brain system; *i.e.* that in each of these minor nerve systems some one element (which is usually a minor nerve system of a lower order) is in control of the other elements of the system; and within it not only controls but selects.

3. In normal active waking life one great sub-system controls the whole brain system. It receives the resultants of stimulations from the environment, and more or less fully fixes the consequent reaction upon the environment through its influence upon the motor minor nerve systems

usually dominates and controls the others; its form determines the form of the awareness of any given moment.

So far as the other minor psychic systems are harmonious with those of the main control system they are assimilated by, and emphasised by, this latter. It not only controls, but it selects. It is in connexion with this main control system that the empirical ego [1] is developed. Its nature fixes the form of our individuality. In what follows I shall speak of this main psychic control system as the ego system.

There is clear evidence that this same control characteristic is given within each of the minor psychic systems forming the whole system of awareness; *i.e.* that in each of the minor psychic systems some one element (which is usually a minor psychic system of a lower order) is in control of the other elements of the system; and within it, not only controls, but selects.

3*a*. In normal waking life then the ego system controls the whole field of awareness. It receives the resultants of environmental influences in sensation and perception, and more or less fully fixes the forms of impulse, desire and volition in relation to reaction upon the environment.

[1] It is not the true Self, *cf.* my *Consciousness*, chap. iii.

which are, so to speak, its servants.

But the nature of this control system must vary from moment to moment as the activities of certain minor nerve systems of lower orders come into, or are excluded from, sympathetic correlation with it.

These variations of nature of the control system are usually slight.

But they may, at times, be of sufficient significance to alter very appreciably the nature of the control system.

Indeed in some cases the control may shift from one major sub-system to another.

These diverse major sub-systems are usually in more or less close correlation.

But in morbid cases they may be thrown altogether out of relation.

But the nature of this ego system must vary from moment to moment[1] as certain minor psychic systems of lower orders come into, or are excluded from, sympathetic correlation with it.

These variations of the nature of the ego system are usually slight; they are evidenced in diversity of what we call our moods.

But they may, at times, be of sufficient significance to alter very appreciably the nature of the ego system. An example of such appreciation we have in the distinction commonly made between one's "better self" and one's "worse self".

In some cases moreover the control may shift from one major psychic sub-system to another. I may for instance be guided by my "better self" on one day, and by my "worse self" on another.

These diverse ego systems are usually so closely related that we do not appreciate them as diverse existences, but as changes of form in a persistent entity.

But in morbid cases they may be so thoroughly thrown out of relation, as to be quite distinct from one another. Examples of such sharp distinction are given in cases of so-called "double personality".

[1] *Cf.* my *Consciousness*, chap. xxvi.

II.

Let us now turn to another consideration.

4. Whenever we observe what we call a special activity in a special part of the brain system, we are really dealing with an emphasis of activity within an all active system; *i.e.* with what, for convenience, we may call a neururgic emphasis.

4*a*. The specific mental items in awareness never stand isolated; they are always felt to stand out in contrast with a something more of consciousness. These mental items are believed to correspond with what are usually called "special brain activities" but which are really merely neururgic emphases. They therefore may be assumed to be psychic emphases.[1]

5. Neururgic emphases are what they are because they stand out in contrast from a vast body of less markedly active parts, which latter form an undifferentiable mass of minor nerve activities.

5*a*. For it is natural to assume that the "something more of consciousness" in contrast with which the mental items appear is an undifferentiable psychic mass corresponding with the neururgic mass in contrast with which the neururgic emphases appear; and this undifferentiable psychic mass we in fact find in what is usually referred to as "sub-consciousness," but which we may better call the psychic field of sub-awareness.

6. The whole pulse of activity within the brain system may be said to display in any given moment a definite neururgic pattern; the form of this pattern being determined by the distribution of the neururgic emphases within the neururgic mass.

6*a*. Consciousness may be said to display in any given moment a definite mental pattern; the form of this pattern being determined by the distribution, so to speak, of the psychic emphases within the whole of the consciousness of the moment.

7. So long as there is life in the brain system; *i.e.* so long as it is active, it must

7*a*. So long as there is life, some form of consciousness exists. This consciousness

[1] *Cf.* my *Consciousness*, p. 17 ff.

display some form of neururgic pattern; although the neururgic emphases determining the form of this pattern may be at times exceedingly minute.

8. Both the neururgic emphases, and the neururgic mass are fundamentally of the same nature.

may under certain conditions display but a very ill-defined mental pattern; but we are justified in holding that we are conscious in some measure even in the deepest sleep.

8*a*. The field of psychic emphases making up the field of awareness, and the field of sub-awareness, must be held to be fundamentally of the same nature.

III.

With these considerations in view let us now turn to matters more obviously related to the subject before us.

9. Each stimulation of the brain system from without itself results in what we call a reaction, which involves a readjustment of its physical efficiencies;[1] and this is a permanent readjustment which inheres in the system, although it may be altered by later readjustments.

In fact, as the result of this readjustment of efficiencies the brain system has become a new system, capable of new forms of reaction, and incapable of exactly the forms possible before its stimulation.

9*a*. Each modification of consciousness, due directly or indirectly to environmental influences, results in a readjustment of its psychical efficiencies; and this is a permanent readjustment, which may indeed be altered by later readjustments, but which inheres in consciousness.

In fact, as the result of this readjustment of efficiencies, the psychic system becomes a new system, capable of displaying new forms, and incapable of displaying exactly the same forms that were given before the modification.

[1] This permanency of readjustment is masked by the fact that parts of the brain system recuperate after reaction, and seem capable of repetition of identically the same reaction at a future time. It is difficult to see how it is possible for an organ to be, or to become after a reaction, exactly the same structurally that it was before; and that it has not regained, or does not regain, this capacity, but is changed in some way, is apparent in the fact that it finally wears out. But even if we cling to the view that in certain nerve cells no such permanent effect is produced by a given reaction, nevertheless we must agree that the effect of such reaction upon the highly complex brain system as a whole is a readjustment of efficiencies that cannot but have an influence upon its forms of reaction in the future.

This is the basis of neurological retentiveness, which is a special case of general physiological retentiveness.

There is no such thing as the "storage" in the brain system of stimulative effects; *i.e.*, effects that lie dormant until they may later be called upon to display themselves. The permanent re-adjustments may be specially located in particular minor nerve systems, but if these minor nerve systems are parts of the greater brain system, this whole brain system must be looked upon as having changed its form as the result of the stimulation and reaction.

10. Now evidently, in each moment, there must occur many re-adjustments of neururgic efficiencies in the brain system that lie entirely within the undifferentiable neururgic mass which forms a background against which the "special nerve activities," or neururgic emphases, are contrasted.

11. And the permanent re-adjustments of physical efficiencies, due to activities in the past, must in the main lie

This is the the basis of psychological, or better psychical, retentiveness.

This conception is far removed from the conception of retentiveness as a kind of psychical storage, which figures so largely in current psychological thought.[1] Nor is it to be confused with the Herbartian conception of presentations that are looked upon as permanent psychic individual atoms which are always striving for recognition, although most of them are repressed; a conception which seems to dominate the writings of Freud, and which, in a modified form, appears in the thought of no less a master than Bergson.[2]

10*a*. In each moment there must occur many permanent re-adjustments of psychic efficiencies that lie entirely within the psychic field of sub-awareness because they are not sufficiently powerful to affect the psychic emphases within the field of awareness.

11*a*. The permanent re-adjustments of psychic efficiencies due to activities in the past, must in the main lie

[1] *Cf.* Bergson, *Dreams*, p. 33. "But behind the memories which are concerned in our occupations, and are recorded by means of it, there are others, thousands of others, stored below the scenes illuminated by consciousness."

[2] *Dreams*, p. 33 f. "The memories which are preserved in these obscure depths are there in the state of invisible phantoms. They aspire, perhaps, to the light, but they do not even try to rise to it; they know it is impossible, and that I, as a living and active being, have something else to do than to occupy myself with them."

within the neururgic mass, ever ready to display their nature by giving colour to certain of the neururgic emphases with which they are related.

within this field of psychic sub-awareness; ever ready to display their nature, however, by giving colour to certain of the psychic emphases which are sufficiently emphatic to appear in the field of awareness.

When the resultants of these permanent re-adjustments of psychic efficiencies of the past do thus arise in the field of awareness we experience what we call a revival, whenever we have any objective evidence whatever of the existence of conditions which may have led to the re-adjustment of the psychic efficiencies they indicate.

A true memory is a special form developed in connexion with such a revival. It is a revival that is real, in past time, for me.

IV.

So much as to the nature of retentiveness. Let us now consider what light this study throws upon the nature of dreams.

12. In normal alert waking life one great major sub-system controls the brain system; but there exists always the possibility that some change of neururgic emphasis within some of the minor systems of a different order will affect the major sub-system sufficiently to result in new emphases within it.

12*a*. In normal alert waking life the ego system controls; but there exists always the possibility that some change of psychic emphasis within some of the minor psychic systems within the field of sub-awareness will affect the ego system sufficiently to result in the appearance in awareness of this emphasis within the minor psychic system.

In thus appearing it passes what is usually called the "threshold of consciousness," which might more properly be called the "threshold of awareness within consciousness".

13. Different conditions of activity in the major nerve

13*a*. There are differences of threshold level; these be-

sub-system will determine what minor systems shall influence its form. And changes in these conditions of activity may occur from time to time.

14. If the activity of the major nerve sub-system is reduced, emphases within minor systems of a different order may yield neururgic emphases within it that would not otherwise appear.

15. And on the contrary increase of the activity of the major nerve sub-system may result in the disappearance of neururgic emphases that previously influenced its form.

ing determined by different conditions of what we may call psychic activity. And changes in these conditions will yield shiftings of threshold.

14*a*. A shifting of the threshold downward, so to speak, will result in the appearance within awareness of mental items that did not originally there appear; but which existed in the field of sub-awareness. Thus the resting soldier discovers indications of a wound which he did not observe in the excitement of battle.

15*a*. And on the contrary a shifting of the threshold upward, so to speak, will result in the disappearance from awareness,—the absorption into the field of sub-awareness,—of mental items that were originally in clear awareness.

As I am writing this I hear a passing newsboy shouting, "Extra. England declares war." This mental item, suddenly thrust into awareness, serves to start a new train of thought alongside of the one relative to my subject, and also to raise the threshold. I become excited as we say. For a moment I try to go on with my writing; but I find my thoughts in relation to the subject of dreams disconnected; that is to say only the most emphatic ones remain above the threshold; and these quickly fall back into the field of sub-awareness as I rush to buy the "Extra," and read the exciting news. When I have 'calmed down,' I proceed again with my writing, and the lost thought train reappears.

Now such a shifting upward of the threshold occurs, and often a very sudden and marked shifting, when we are aroused from sleep. All the psychic emphases of the sleep state tend to pass into the field of sub-awareness of the wak-

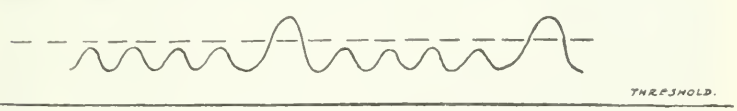
ing state; that is to fall below the threshold of awareness of the wide-awake man.

But in what we call our dreams we catch for the moment in clear awareness certain mental items that were relatively emphatic in the psychic field during sleep, before the threshold was raised.

V.

In order that we may comprehend more fully the nature of dreams, let us consider certain points in relation to the fields of awareness and of sub-awareness within consciousness. As we have already noted, theory would suggest that both these fields are fundamentally of the same nature, and that this is true is evidenced in many ways. In the field of awareness we constantly appreciate streams of mental items resulting from redistributions of psychic efficiencies; and it would seem probable that the same thing occurs in the field of sub-awareness, although these streams are not appreciated in awareness.

In awareness some of these streams flow to a definite end. We have a succession of mental items of moderate emphasis ending in one of very marked emphasis; *e.g.* two roads, one sunny, one shady, one sandy. LET US TAKE THE RIGHT-HAND ROAD. etc. etc. This we may picture as follows:—



Now if the threshold were raised, as indicated by the dotted line, all this might well be within the field of sub-awareness except the emphatic items, which would suddenly appear in awareness.

That such items do thus "pop into our heads" is of course clear; and it is clear also that if we stop to inquire why they appear we are often able to drag out of the field of sub-awareness the unemphatic items of the stream that led up to the emphatic items.

That we have here an explanation of cases of so-called "unconscious cerebration" is evident.

If then such well-ordered streams may exist in the field of sub-awareness of waking life, they without doubt occasionally exist in the field of consciousness accompanying sleep, and occasionally we might expect upon awakening to catch

practically the whole of the stream; as in the case of Tartin's "Devil's Sonata" mentioned by Bergson.[1]

But each mental stream given in awareness displays great variety in the degrees of emphasis of the component mental items; and if the streams within the field of sub-awareness display the same characteristic, we should naturally expect that the sudden shifting of threshold upon awakening would leave but a few of the more emphatic items subject to recall. This in itself would account in part for the disconnectedness and haphazardness of dreams.

But there is another reason why these characteristics of dreams should be usually so marked. For in sleep the full control of the ego system seems to be lacking,[2] and this would naturally result in a fortuitous development of lightly related items in minor psychic systems without the critical selection which is the characteristic of our rational life. That this is what happens in sleep is indicated by certain waking experiences accompanying lassitude which is allied with the sleep state, when we, more or less deliberately, "let ourselves go," as we say. The imagination then tends to run riot, and we experience mental streams so clearly allied with our dream streams that they are actually colloquially spoken of as 'day dreams'.

It thus appears that the nature of our dreams is clearly statable in terms of that part of consciousness of which we are aware. As Bergson[3] well says, "The birth of a dream is then no mystery. It resembles the birth of all our perceptions. The mechanism of the dream is the same, in general, as that of normal perception." As in wide-awake life we build up in a flash the most complex of mental structures around some very simple percept,[4] so we do in our dream life;[5] this being describable in the one case as in the other as the sudden formation of a new mental pattern due to the emphasis of efficiencies already existing but unrecognised.

Some of our dreams are coherent and logical,[6] others are not; and this is true also of the mental streams of waking life. In the main however our dreams are incoherent and non-logical, for the reasons given above.

[1] *Dreams*, p. 29 f. [2] *Ibid.*, pp. 48, 50. [3] *Ibid.*, p. 37.

[4] A few days ago on a railway train my companion asked me, "What is this station at which we are stopping?" and I instantly replied "Elizabeth". I then endeavoured to discover how I had reached this conclusion, and discovered that the only basis for my instantaneous reply had been the sight of the letter E which was all I could see of the name on the platform sign.

[5] *Cf.* Bergson. *Dreams*, p. 16 ff. [6] *Ibid.*, p. 44.

That they often serve to revive mental streams that have long since faded into the body of sub-awareness[1] is merely proof of the fact that the re-adjustment of efficiencies that occurred in that dim past were permanent re-adjustments, as I have above stated.

That the dream consciousness is closely related to the consciousness of insanity[2] is natural in consideration of the fact that insanity is in the main evidenced by lack of control by the ego system, which we have seen is also a characteristic of the dream consciousness.

VI.

In closing we may consider briefly the relation of this view to two studies of our dream life that have been of late brought into prominence; *viz.* those of Bergson and Freud.

In Bergson's small book entitled *Dreams*,[3] which is written with his usual grace and skill, we find him making the following points: "Dreams in general create nothing" (p. 29), it being "memories and only memories which weave the web of our dreams" (p. 31). "The memories that we evoke while waking, . . . are always connected with present action" (p. 33). "But behind the memories which are concerned in our occupation . . . there are thousands of others stored below the scene illuminated by consciousness. . . . All our past life is there, preserved even to the most infinitesimal details, and . . . we forget nothing." These memories not concerned with our active life press forward into consciousness when I become *disinterested*. "They rush together to the door which has been left ajar" (p. 34). "The mechanism of the dream is the same, in general, as that of normal perception" (p. 37). "In the waking state . . . an operation is continually going on which is of quite the same nature as that of the dream." The difference is due to the lack of effort in the case of the dream (p. 46 ff.). This lack of effort explains the incoherence of dreams (p. 51)

[1] *Cf.* Bergson, *Matter and Memory*. "In certain dreams, and in certain somnambulistic states memories which we believed abolished appear with striking completeness; we live over again, in all their detail, forgotten scenes of childhood; we speak languages that we no longer remember to have learnt." Note here the obscurity due to the use of memory in place of revival. He actually speaks of memories no longer remembered.

[2] *Cf.* Carr, MIND, N.S., 91, p. 323.

[3] This book lately published appeared in 1913 in the form of two articles translated from an article published by the author in 1901. But as the translator tells us this translation was revised by its author, it may be assumed to represent his present views.

and the abolition of the time sense in connexion with them (p. 52). "Preference is given by the dreamer to one memory image rather than to others" (p. 53); "the events which reappear by preference in the dream" being "those of which we have thought most distractedly" (p. 55).

Evidently the view I have above presented is in many respects harmonious with Bergson's conception as thus given; if we bear in mind Bergson's use of the term memory in place of revival. I too would hold that all the experiences of our past life are embedded, so to speak, in the consciousness of the moment. But, as I have noted above, I differ from him as to the mode of what he calls the preservation of all of our past life. He clings to the atomistic conception of storage. I would hold that as all experiences of the past have modified the nature of the conscious system, it in any moment must in a sense embody these experiences. The storage theory, even as modified by our author, falsifies the facts in leading us to think that these experiences of the past are revivable as such. There is every evidence that this is not the case. No revival or memory experience is ever identical with the experience that was originally given. All that we can say is that the re-distribution of efficiencies involved with a given experience is permanent, and may at times display itself in a form which will yield a new experience that is appreciated to be like one that has previously been given.

My view accords with Bergson's in holding that the difference between the dream life and the waking life is due to the fact that the control of the latter is lacking in the former. Under my view, as under his, the lack of this particular control does not indicate a distinction of kind between the dream life and the waking life. For although this particular control is lacking, some control is given in our dream life; as is shown in the very fact, acknowledged by him, that preference is "given by the dreamer to one memory image rather than others".

Turning now to Freud's theory[1] we note in the first place that he assumes a sharp distinction between consciousness, "fore-consciousness" and the unconscious. It will be apparent to the reader that I see no ground for making this distinction.

Stripped of all illustrative material, Freud's theory may be stated as follows. His main interest is centred upon the thesis that every dream is the fulfilment of an unconscious wish. He conceives of this wish as an active entity which

[1] *The Interpretation of Dreams.* The page numbers in the text will refer to this book. Cf. my review in *The Nation*, New York, 15th May, 1913.

strives to rise into full consciousness and to effect its realisation, this being thwarted by the action of another entity which he designates as the "censor". "The psychic activity in dream formation resolves itself into two functions—the provision of the dream thoughts" which are unconscious, "and the transformation of these into the dream content". This latter activity is "peculiar to dream life and characteristic of it, . . something qualitatively altogether different from waking thought, and therefore not in any way comparable to it. It does not, in general, think, calculate, or judge at all, but limits itself to transforming. . . . This product, the dream, must at any cost be withdrawn from the censor" (p. 401 f.); this being accomplished by a variety of devices. The dream under his view would not occur unless it had a special function, which is thus described: "The dream has taken it upon itself to bring the liberated excitement of the unconscious back under the domination of the fore-conscious; it thus affords relief for the excitement of the unconscious, and acts as a safety-valve for the latter" (p. 457 f.).

In all this Freud gives especial prominence to the conception of "the censor" which is described as a psychic system, or clever psychic entity, which resists the "penetration to consciousness of the dream thoughts" (p. 409), and which our author likens (p. 419) "to the Russian newspaper censor on the frontier, who allows to fall into the hands of his protected readers only those foreign journals that have passed under the black pencil." When the censor fears that the dream thought will escape his vigilance he resorts to all sorts of artifices to forestall its persistency. He changes the dream so that it becomes repugnant rather than attractive (p. 135). He moulds the dream by distortion (p. 226); by displacement and condensation (p. 286 f.); by substitutions (p. 314); by the suppression and inversion of pleasure-pain and emotional reactions (p. 375); by making it appear foolish and disconnected (pp. 339 f., 419 f.); by forcing us to forget it upon awakening (p. 410 f.). Never, indeed, should we have a dream but for the fact that "the sleeping state makes dream formation possible by diminishing the endo-psychic factor" (p. 416).

It seems clear that the psychologist must see in this theory the building of a huge structure upon a very slim and unstable foundation. It is to be agreed, of course, that the psychic system of which we are aware in waking life, moulded as it has been, and is, by the social influences that surround us, prevents the fruition of desires, and frustrates the development of thought trains, which are inimical to our welfare as social

beings. But this acknowledgment does not warrant us in holding that this wide-awake consciousness is an entity so separate and diverse from the other psychic systems within us as our author would have us believe. All the evidence before us leads to the view that consciousness is fundamentally of the same nature through and through: that differences of systemic form occur within it; but that these are always in some measure correlated and are constantly more or less influential in determining the nature of that field of consciousness of which we are aware: this being quite compatible with the fact that, when we feel consciousness to be less than fully alert, prominence is gained by other psychic systems than that which is evidenced in moments of full alertness.

Passing over the final laboured and obscure elaboration of this censorship (p. 426 ff.), which points to another censor governing "the transition from the fore-conscious to the occupation of consciousness" (p. 490), we may turn to the main thesis, *viz.*, that "the content of the dream is the fulfilment of a wish; its motive is a wish" (p. 100). Mr. Carr has called attention [1] to a looseness of thought here. The most that Freud can claim is that we have in dreams what Mr. Carr calls the indulgence, rather than the fulfilment, of a wish.

The author's thesis in this particular is based upon his analysis of dream contents which, if allowed to develop, very frequently, if not usually, bring into prominence some wish which in the dream is felt to be realised. This fact none will deny, but question at once arises whether this is a special characteristic of dream consciousness. It surely is true that the development of the thoughts which arise in everyday wide-awake life also constantly yields wishes that are immediately followed by pictures of the consequences of their imagined fulfilment. In this characteristic of dream life we therefore find no unique psychic functioning.

But in dream life, as in wide-awake life, there are many cases where wishes are not observable. This fact, however, does not balk our theorist, who warns us that his "doctrine does not rest upon the acceptance of the manifest dream content, but has reference to the thought content which is found to lie behind the dream by the process of interpretation" (p. 114). And here he displays extraordinary ingenuity in ferreting out dream wishes where none at first appears, by methods which, by the way, would yield very similar results if applied to normal waking consciousness. In his other writings our author has given evidence of a morbid tendency

[1] MIND, N.S., 91, p. 333.

to over-emphasise the potency of erotic influences in all of experience, and in the field here considered the results of this preconception are conspicuous, leading him to improbable and revolting explanations. It is true that these influences are very powerful in our adult lives; it may be true also that they have been powerful in infantile life, and that their early activity may have resultants which are felt as we come to maturity. It is to be noted however that the traces thus left are likely to appear, not only in dream life, but also in wide-awake life when we allow our thoughts to flow without restriction. All this may be granted, however, without forcing us to follow our author in his insistence that practically all such dream wishes must have this erotic origin.

Finally, when we turn to our author's thesis that the dream has a special function, we find ourselves naturally led to assume a sceptical attitude by the fact that throughout the whole of his studies evidence constantly appears which leads us to note the closest of relations between our wide-awake and our dream consciousness. This our author accepts or denies as occasion requires. He agrees "that all the material composing the content of the dream in some way originates in experience" (p. 7); that "the experiences of the previous day furnish the immediate material for its content" (p. 192); that the dream thoughts "are usually found to be a complex of thoughts and memories of the most intricate possible construction, and to possess all the properties of the thought processes which are known to us from waking life" (p. 289); and even goes so far as to say that Aristotle was correct in holding that "the dream is a continuation of thinking in sleep" (p. 436). Yet, as we have seen above, he bases his theory upon the assumption that there is an activity in the transformation of dream thoughts into dream content which is "something qualitatively altogether different from waking thought, and therefore not in any way comparable to it"; and he finally asks us to believe that "it is quite impossible to explain the dream as a psychic process" (p. 405).

One cannot close the book here referred to without a sense of depression. The author has won distinction in connexion with his use of the psycho-analytic method, and is believed to have done great service in his special field by a large group of his professional brethren, not all of whom, however, agree that his theoretical positions are valid. But his mode of thought as displayed in this book is indicative of a total lack of the characteristics which lead to scientific advance. In it he portrays himself as one whose scientific judgment cannot be trusted, and this must lead even his most enthusiastic fol-

lowers to question whether they are not over-estimating the value of his work in other directions. He presents an example of the dangers connected with the extreme specialisation characteristic of the educational systems of our day, which fails to strengthen the sense of logical values so important to the development of a true science. Their appreciation would have led our author to use caution in the adoption of doubtful hypotheses, and to hesitate to take the attitude of a special pleader who emphasises all evidence favourable to the hypothesis adopted, and minimises, if he does not overlook entirely, all evidence that is unfavourable. In my view while the value of his practical work in relation to hysteria and kindred problems may be long remembered, his theory of dreams will soon be laid aside as untenable, and forgotten.

V.—DISCUSSION.

THE NATURE AND GEOMETRY OF SPACE.

Prior to any consideration of the special geometrical character of space is of course the problem of its nature in itself, and without attempting to carry further the question whether space be Euclidean or non-Euclidean, I should like to consider Mr. Broad's conclusions[1] in their bearing upon the more general subject.

Mr. Broad begins by endorsing the view which is advanced, though with varying detail, by several able thinkers, that "in a certain sense it is true that each of us has a private space peculiar to himself".[2] But from any such initial standpoint there are bound to follow, in my opinion, developments fatal to any satisfactory theory of space as a constituent of objective reality; and the difficulties which arise from the simple phenomenon that "what I see and what you see at the same moment when we say that we are looking at the same body will have slightly different shapes,"[3] taken (as this usually is) in connexion with the facts of hallucinations and illusions in general, always appear to me to be satisfactorily solved by the application, in each case, of the principle that all appearance is partial reality,[4] instead of by the formulation of "private space" theories which create in the end difficulties more formidable than they appear to remove. We have an instance of this, I think, when we proceed to Mr. Broad's treatment of the relations between matter and space. If it be true, *i.e.* that "in a certain sense, each of us has a private space"; and if it be also true that "pieces of matter are related in a certain peculiar way to points of space";[5] then it would seem to follow that each "private" space must contain its own "private" matter,[6] and

[1] "Is Our Space Euclidean?" Mind, October 1915, p. 464.

[2] *Loc. cit.*, p. 464. [3] *Ibid.*, p. 474.

[4] Or, in other words, "everything is real, so long as you do not take it for more than it is" (Bosanquet, *Principle of Individuality*, p. 240); if, *i.e.*, you recognise that its reality, though undeniable so far as it goes, must be carried further and supplemented from regions outside itself.

[5] Mind, *loc. cit.*, p. 466.

[6] If it be replied that matter fills only objective—*i.e.*, non-private—space, still private space is never empty, but has always some content which, whatever its nature be, has relations both to its own containing private space and also to matter proper;—constitutes, in short, with these a subordinate "world".

that both must be in some relation to "private" time; we cannot, in short, restrict this "privacy" (as its advocates usually, but without any reason given, think it sufficient to do) to space, because the theory, when given its proper development, results in endowing each of us with a "private" world,[1]—and the fitting of these innumerable worlds into the real universe constitutes a fascinating zagzig puzzle for philosophers; but Mr. Broad we find later qualifies his position by the assertion that "we do not know whether such (private perceptual) spaces be possible".[2]

If, however, we assume their possibility we are at once faced by the still more fundamental difficulty of effecting any transition from such private spaces[3] to "a space so constructed as to enable us to deal with the data of all senses of all men".[4] Let it be admitted that:—

(*a*) "*No kind of space* can be perceived by the senses";[5]

(*b*) That the "spatial relations of perceived objects" cannot "*in any sense* be supplied by our minds";[6]

(*c*) And that nevertheless space (*i.e.* as objective and non-private) is "something that we add to our experience";[6]

then the question arises, what grounds do we possess for our knowledge that this space, which *I* add to *my* experience, is identical with the space that you (and others) add to your (and their) experience?

Why, if perceptual spaces are private, should not thought-constructed spaces be private also?[7] To reply that concepts are in their nature general or universal is manifestly to disguise question-begging as generalisation; but if constructed spaces (or worlds) are "private" what then becomes of the objective real world? And it will ultimately be found, I think, that "private" experience, assumed as a basis, constitutes an impenetrable ring-fence about the experient debarring him eternally from objective knowledge.

Let it however be granted further, that this transition to the objective world can be effected, the actual mode being here disregarded. Still Mr. Broad's standpoint appears to be far from self-consistent; he regards space as something "added to our experience and not something found by us";[8] while at the same time the "spatial relations of perceived objects . . . are found and not made by us";[8] . . . "touch and sight make us aware of extended wholes in which we can distinguish parts in spatial relations";[9] nevertheless, "the object of sight . . . touch . . . are not themselves

[1] Of course the relation of each of us to the real universe—the relation in general *i.e.* of the individual to the whole—is "private," if we care to adopt that adjective; but the two cases are obviously quite different.

[2] *Loc. cit.*, p. 473. [3] If not worlds. [4] *Loc. cit.*, p. 473.

[5] *Ibid.*, p. 472. My italics. [6] *Ibid.*, p. 471. My italics.

[7] The popular opinion that our "thoughts" are essentially private shows that the contrary view requires at least some argument.

[8] *Loc. cit.*, p. 471. [9] *Ibid.*, p. 472.

spaces".[1] "Space," then, is "added and not found," while "spatial relations" are "found and not made"; "spatial relations" again are distinguished through touch and sight, but "space" is not "the object of sight or touch". But are not these distinctions, between space on the one hand, and spatial relations on the other, far too absolute? Do not the two terms mutually involve and interpret each other in such a way as to prevent us regarding one as "found" while the other is "added"—one as always, but the other never, the object of sight and touch?

Are we not, in arguing along these lines, making intellectual progress saltatory instead of evolutionary—unduly aggrandising the mind's more abstract activities at the expense of concrete experience, and proclaiming between these an ungrounded divorce? That the content of perception ("spatial relations") and the object of thought ("space") have some common real element is surely involved in the very terms we use; and though a distinction is necessary between the object of thought and the content of perception still this appears to mean no more than that (in the case before us) the former is an abstraction from the latter, and (as such) farther removed from reality; and if then we regard space as at all a real[2] element in the real world, it is to the content of perception (where it is found together with other contents) that we ought primarily to apply the term.

For otherwise the general line of argument which is here employed by Mr. Broad ultimately involves a serious dilemma with regard to the relations between thought and reality. If we regard space as "rather a bizarre interpretation the elements of which are supplied by ourselves,"[3] we must logically take the same view of force, time, mass, truth, duty, and every other ultimate scientific and moral concept alike; the obvious result then being that reality becomes a noumenal outcast rigidly excluded from the select circle of our intellectual categories; thought is sharply cut off from reality, for its products are frankly unreal[4]—are mere "bizarre interpretations"; and our only way to avoid this result is to reinstate these as real elements of the real world, within the content of concrete experience as that exists, complexly but not therefore confusedly, in actual perception. Reality, *i.e.* in the first case, is divorced from thought, while in the second it merely maintains itself in advance of experience; in the one, thought turns farther and farther away from reality—in the other experience pursues after reality, though at a distance.

But this crude content of perception, it may be replied, is so manifestly unsatisfactory that we must supplement it, even if we

[1] *Loc. cit.*, p. 472. [2] As real, *i.e.* as any element can be.
[3] *Ibid.*, p. 472.
[4] "Physical space and physical matter are, so far as we know, just parameters which are introduced" (p. 475); their introduction having merely a pragmatic justification.

may not supplant it, by the results of thought; no mode of concrete experience can give us geometrical space, whether Euclidean or non-Euclidean, or any relation between space and time; and yet some type of geometrical space, and some relation between space and time are necessary and must be real. Therefore, proceeds Mr. Broad's argument, "By our space, we mean the space of physics which has been constructed";[1] . . . a "bizarre interpretation," "something that we add to our experience, not something found by us".

The question as to the justification which this general type of argument possesses is crucial for the philosophy of knowledge; and it seems to me that the prevalent use of "space" and its allied scientific and philosophic terms always in the sense of, as such, excluding the contents of perception, is the result of confusing real elements in the real perceived world with the summarised body of judgments about these elements—is the result, in short, of failing to distinguish between the connotation of terms and their denotation. Space, *i.e.* as such, is a real constituent of the real world; "geometrical space" or "physical space" (or any similar term) is, viewed from one side, the symbol of a body (variable in detail for each individual) of judgments about this real—the symbol of a system of ideal qualifications of this constituent of reality;[2] "physical space" *e.g.* at the same time denotes an element in the reality we perceive, and connotes the abstract qualities which reflexion distinguishes within this element, which distinction and relation it expresses in a system of judgments; and to restrict "physical space" to this connotation, and so to sever connotation from denotation, is to destroy both. To confine "physical space" to the product of thought—to the element we add to our experience—is in the end to deprive the term itself of all meaning; for define "physical space" how you may—in terms of points, or straight lines, or properties of parallels—as Euclidean or non-Euclidean—still unless these definitive terms have some reference ultimately to the content of perceptual experience, they become wholly devoid of meaning.

This appears to be true from Mr. Broad's own account of space as "something added by us to the experienced facts";[3] for what is the origin of this "something added"? If not in and from the "experienced facts" themselves, it can only be the pure product of thought; and then we have the dilemma—either our thought addition must be unreal; or, if real, then thought can produce reality spontaneously.

It may be replied—Granting that space is a real element given

[1] *Loc. cit.*, p. 474.

[2] It would be truer to say that even the name "space" is itself a more or less rudimentary qualification of reality, for judgment begins with the use of a name, the only alternative being eternal dumbness.

[3] *Loc. cit.*, pp. 470, 471.

in perception, still it must be either Euclidean or non-Euclidean; it cannot be both, and yet how is it possible that any essential character of reality should be doubtful? This question, natural and puzzling enough, arises from the unconscious confusion already referred to, between the real entity denoted by "space"[1] and the system of judgments which we come to make about this entity, which judgment-system at last becomes automatically implied by and summarised in the term "space"[2] itself;[3] and when we thus distinguish the entity denoted by "space" from the judgment-system connoted by "space," it is easy to see that any uncertainty about the fundamental nature of space concerns, not this real nature itself, but merely the truth of the judgment-system which we hold that the term space implies; and any such judgment-system may, obviously, be false; "geometrical space" then—*i.e.* the judgments this term implies—may be Euclidean in one century, and non-Euclidean in the next; just as "physical light" was once corpuscular, then undulatory, and again electro-magnetic. But all this merely means that our system of judgments about space (and light) alter in content and character with the development of our knowledge; it does not mean either that space and light are, as such, never given in perception, or that the fundamental nature of these reals as such is unfixed and uncertain.

With reference, finally, to the distinction between matter and space, it appears to me that Mr. Broad introduces what is really a self-contradictory concept. From the principle that "pieces of matter are related . . . to points of space"[4] Mr. Broad proceeds at once to the idea of "matter divided up into material unextended points,"[4] distinguishing these "material points" from spatial. But is not this idea self-contradictory? A point, using the term with the strictness necessary to the argument, cannot be at once material, and unextended; for the material is, by definition, extended. Of course, "point" has a variety of meanings; but in considering the relation between matter and space its meaning must remain unaltered, and if we begin with points of space, which by definition have no extension, we cannot go on to use point, in this same sense, and speak of "material unextended points," because "material" and "unextended," again by definition, exclude each other—we cannot apply both, at once, to the same entity. If therefore, we employ "material point" at all, it can be, I think, in a metaphorical sense only, just as we may speak *e.g.* of "the point of an argument," or "the good points of a horse".

If on the contrary, "point" be used with its proper literalness

[1] Or "physical—geometrical—space"—the particular term chosen is immaterial to the argument.

[2] See last note.

[3] It may be replied that attributes, not judgments, are thus connoted; but then attribution is always implicit judgment even when not explicit.

[4] *Loc. cit.*, p. 466.

the distinction between "material point" and "point of space" breaks down altogether;[1] and if, again, "material point" = some portion of matter, however small, then we have the whole problem of material extension afresh on our hands, since the space relation of an atom is just as difficult a question as that of the solar system.

[1] Further in this connexion, can we regard a straight line as "a certain selection of the points . . . related to each other in a certain way" (*loc. cit.*, p. 465)? Can any selection of (unextended) points, *i.e.*, be an (extended) straight line? The Euclidean straight line is not a relation between points; even if we say a moving point "produces" a line, do we mean more than that a point moves along a line? This apparent hypercriticism appears to me to involve the principle that though we can, from concrete space, abstract points, lines, planes, etc., we cannot reverse this process—cannot *i.e.* from points, lines, planes, etc., construct concrete space.

J. E. TURNER.

VI.—CRITICAL NOTICES.

The Greek Philosophers. By A. W. Benn. Second edition, corrected and partly rewritten. London: Smith, Elder & Co, 1914. Pp. xxxv, 619.[1]

It would not be becoming, even if considerations of space made it possible, to review in Mind the second edition of Dr. Benn's well-known work in great detail. The writer's principal views, it may fairly be presumed, are already known and familiar to most English-reading students of Greek philosophical thought, and most of the grounds which could be urged for agreement or disagreement with them are likewise not new. As far as the greater part of the volume is concerned, therefore, I desire simply to congratulate Dr. Benn on the appearance of his book in a one-volume edition and to express my appreciation of his long devotion to Hellenic studies and of the service he has for years done to the cause of Hellenism by his unflagging industry. I am all the more pleased to have this opportunity of doing so that I am forced in very many ways to dissent from Dr. Benn's conclusions on the most important part of the whole subject, the interpretation of the Socratic and Platonic philosophies. Disagreement about conclusions fortunately need not hinder any one from admiring the vigour with which Dr. Benn champions his cause and the success with which he avoids that worst of sins in a historian of thought, dulness. Whether one agrees with him or not, he is always interesting, and for my own part, even where I believe his main conclusions to be most mistaken, I always find that he has something to say that really throws light on the issues under consideration. And, if Dr. Benn will allow me to say so, I do not welcome any really fresh and interesting discussion of these questions the less because I believe it to be mistaken in its results. To the real lover of Socrates and Plato the thing of first moment is not that his own views about them should be preached, but the thinking men should be stimulated to study Greek philosophy for themselves. The "right" views may be trusted to make headway by their own inherent rightness, if only the interest in the study is kept alive. And

[1] The following pages were written before the announcement of Dr. Benn's lamented death, but it has been thought best to let them stand without modification. The writer desires to add that his disagreement with many of Dr. Benn's results has never lessened his admiration for Dr. Benn's whole-hearted devotion to Greek Philosophy.

whether Dr. Benn is right or wrong in his views, he always contrives to be interesting and provocative of thought.

The features in the present edition to which the *Preface* calls special attention as new are these, an additional note on the circumstances and significance of the trial of Socrates, a chapter on the Metaphysics of Plato, and the discussion of the eternally perplexing Aristotelian doctrine of the *intellectus agens*. Dr. Benn expresses some apprehension that the Plato chapter may be treated by his readers with insufficient attention on the ground that it is not the work of a " Professor ". I think he may feel quite at his ease about that matter. It is just to writers like Dr. Benn whose freedom from the grind of a profession enables them to devote their whole energy to the study of their chosen problems that those of us who are engaged in the regular work of teaching are most glad to look for instruction and guidance. Perhaps I may add that for my own part the one man from whose scholarship, erudition, and critical common sense I am conscious of having learned more about Plato than, I might almost say, from all the professors of the nineteenth century put together, George Grote, was no " Professor " either. I will now try to say something about the specially new portions of Dr. Benn's second edition.

As regards the trial and condemnation of Socrates, Dr. Benn has several pages of rather severe castigation of Profs. Bury, Gilbert Murray and myself, whom he describes as apologists for " the vilest attack on reason Europe has ever seen ". I can speak, of course, only for myself, and ought perhaps to add that while I believe myself to be in the main in full accord with Prof. Bury, I should not care to defend some of the rhetoric which Dr. Benn quotes from Prof. Murray. Speaking for myself, I can only say that Dr. Benn appears to have mistaken a position which I believed myself to have made quite plain in my discussion of the ἀσέβεια of Socrates. My offence apparently consists in holding that Socrates was technically guilty of the charges brought against him, and that there is no reason to suppose that his prosecutors were actuated by any but public-spirited motives. More precisely, I hold that what was meant by the charge of " corrupting the young " was inspiring young friends with ideas incompatible with the ideals of the Athenian democracy, and that there can be little doubt that of this offence the friend of Critias and Charmides was guilty. I do not regard this as any slur on the glorious memory of Socrates; I should rather consider it a fault in him if his influence had not made his young friends dissatisfied with the democracy which massacred the Melians and ruined itself in the attempt to enslave Sicily. But I do think it amounted to what earnest democrats might reasonably regard as unpatriotic conduct, and that there is no need to look for mean personal motives to explain why the democrats determined to drive Socrates from Athens. (We must remember that they can hardly have meant to take his

life. They must have expected that he would take the usual course of leaving Athens and allowing the case to go against him by default, or that, if he stood his trial and was convicted, he would propose an alternative penalty which would satisfy the dicasts.)

To his everlasting honour Socrates chose to die, as he had lived, in the service of "the God"; that, however, is no proof that the democratic leaders were not equally honest in their devotion to the good of the city as they understood it, or that they were wrong in thinking the influence of Socrates dangerous from their standpoint. (Dr. Benn perhaps forgets, what the dicasts would remember, that Socrates was directly responsible for persuading Charmides to enter politics. At least, so Xenophon says, and Dr. Benn, unlike myself, believes that we must accept as true everything that Xenophon tells us about Socrates.)

Still less do I think it just to bring the charge of religious intolerance against the Athenians in general. Dr. Benn cites the cases of Anaxagoras, Diagoras, Protagoras and Aristotle. But it is certain that the real grounds for the prosecution of Anaxagoras and Aristotle were purely political, Diagoras was condemned not for his opinions, but, like Alcibiades, for "profaning the mysteries," (a very different thing), and Dr. Benn must know that there are the gravest reasons for doubting whether Protagoras was ever prosecuted at all. It has been said, and Dr. Benn repeats it, that Athens was the only city where Socrates would have run any risks. This is, I believe, a mistake. There is no reason to think that Socrates did run any risk before the reign of terror in 404-403, and I think it may fairly be inferred that if Socrates had not been the friend of Critias and Charmides, and had not held aloof from the democrats who withdrew to the Peiraeus, he would have run none after that year.

I am glad now to be able to claim the authority of Prof. Burnet for a view which in all essentials agrees with my own. In fact I might almost claim Dr. Benn's. For he says admirably that Socrates was "impeached as a philosopher, defended himself as a philosopher, and was condemned to death as a philosopher". Exactly, and Plato says the same thing in the *Gorgias*. φιλοσοφία and the δῆμος of the Athenians were two masters whom no man could serve at once. But the difficulty lay, as Plato makes plain, in the incompatibility of two political ideals.

A word or two about Dr. Benn's chapter on the Metaphysics of Plato. I find it difficult to ascertain the central idea underlying the discussion, and must therefore avoid premature criticism of special points. And I should like to say that I agree with Dr. Benn in regarding the *Parmenides* as the beginning of a great constructive development, though not altogether with his interpretation of the lines on which the development proceeds. I think he overlooks the all-important point, properly insisted on by Prof.

Burnet, that the real difficulty forced on us by the *Parmenides* concerns not the reality of the εἴδη, but the reality of the sensible world. And I feel sure that it is impossible to do justice to the Platonic doctrine without recognising the fundamental importance of the natural theology of the *Laws* and of the Platonic philosophy of number so often referred to by Aristotle. Dr. Benn, in my judgment, makes too exclusive a use of the *Timaeus* and nothing like an adequate use of the *Laws* and *Philebus* and the reports of Aristotle. Hence, while I agree with him in thinking that the doctrine of "Ideas," *in the shape in which we know it from the Phaedo*, does not appear in the specifically Platonic philosophy to which the *Parmenides* points the way, and again that a new stress on the value of the sensible is a prominent feature of Plato's later dialogues, I do not think Dr. Benn has succeeded in making it clear to himself what the positive doctrines of Plato were. He actually asserts his conviction that the theology of the *Laws* was not seriously believed in by Plato himself, and even charges the philosopher with proposing to persecute for a faith in God and immortality which he really did not hold. This is a very serious accusation indeed, and we have a right to require very convincing proof before we bring it against a man like Plato. Dr. Benn's only attempt to prove the point is an appeal to the authority of Teichmüller. Against such a mere *argumentum ad verecundiam* it should be sufficient to reply that the language in which Plato sets forth his doctrine of Theism has every mark of fervent conviction. If the doctrines of *Laws X* were really not held by Plato, then all I can say is that we can have no confidence that anything said in any Platonic work does represent the writer's convictions, and shall have to give up any attempt to explain what Plato's philosophy was. The *Laws*, for example, is just as emphatic in its Theism as the *Phaedo* in its assertion of the doctrine of εἴδη. With what right does Dr. Benn assume that Plato meant what he said in the one case if he did not mean it in the other? So, Dr. Benn regards the criticism of democracy in the *Gorgias* and *Republic* as proof that Plato hated democracy and all its ways; yet this criticism is not one whit more impassioned than the critique of atheism in the *Laws*, and the latter, moreover, is not even guarded by being put into the mouth of a *dramatis persona* for whose utterances the writer might not be fully responsible. It comes from an anonymous Athenian "stranger" who is plainly meant as a transparent disguise for Plato himself. There is no German Professor whose dicta can justify the application of principles of exegesis which leave us free at pleasure to treat any utterance of Plato whatsoever as insincere. Again, Dr. Benn simply ignores the whole Platonic doctrine of Number, (in spite of its enormous influence on subsequent thought), on the plea that Aristotle's unfairness in his criticisms of the "good of Plato" makes his testimony worthless. But the question is not really

about the value of Aristotle's *criticisms*, but about the worth of his *statements*. That Aristotle's criticisms often show imperfect understanding of Plato's philosophy, especially on its mathematical side, is notorious; it does not follow that his express and repeated assertions as to formulæ which he must have heard direct from Plato's lips can be set aside. Thus, it is a notorious blunder in his criticisms of Plato that he habitually argues as if the "Great and Small" were the same thing as the number 2. Criticisms based on such a confusion are worthless, but Aristotle must have known for certain whether or not Plato said that the "Forms" were a "mixture" of the "One" and the "Great-and-small," just as he must have known whether or not Plato believed in the earth's revolution. It is a weakness, again, to have made no attempt to discover how far the utterances of the *Timaeus* have been coloured by the choice of a fifth-century Pythagorean as the main speaker. The dialogue is remarkable for the way in which Timaeus takes refuge in pregnant hints just at the points where we seem on the verge of reaching what is most fundamental. For example, we are never told in the dialogue what the ultimate ἀρχαί of the physical world are. A mere hint is dropped that there is something even more ultimate than the elementary triangles about which the speaker could say more if he chose, but that is all. Apparently the device is adopted merely to avoid the anachronism of putting the Platonic philosophy of Number into the mouth of an older contemporary of Socrates. But whatever the explanation may be, the existence of such significant hints shows that we cannot treat the *Timaeus* by itself as a complete exposition of the views which finally commended themselves to Plato even in the sphere of physics and astronomy. Altogether I think Dr. Benn has allowed his interest in Plato as a moralist and social theorist to blind him to the immense importance of Plato and his associates in the history of mathematics and astronomy. (Though this preoccupation with the practical side of Platonism ought to have led Dr. Benn at least to pay much more attention to the *Laws* and relatively less to the *Republic* in his exposition of Plato's theories of education and government. As the ancients knew well, the *Republic* is far from being the last word of Plato on any of the subjects of which it treats.) [1]

[1] I may take this opportunity of calling attention to a striking recent example of the unjustifiable neglect of the *Laws* by English scholars. The treatise *de Mundo* ends with a quotation from "the admirable Plato" intended to show that "the Fates" are identical with God (*de Mundo* 401b 24-29). The words are, except for one or two trifling variants, taken *verbatim* from the famous text, *Laws* 715e-716a, a passage constantly quoted by later Platonists. Yet the translator of the *de Mundo* in the Oxford *Aristotle* commits the absurdity of saying in a note that "the reference appears to be" to the myth of Er, which contains nothing like them. Had Mr. Forster never read the *Laws?* And, by the way, can we infer from his silence that he has never seen Apuleius' Latin translation of the *de Mundo* itself?

Incidentally I would suggest that some of Dr. Benn's views about the order of the dialogues seem to me arbitrary, and I am not sure that they have not unduly affected his estimate of their value. I gather *e.g.* that he regards the *Philebus* as earlier than the *Timaeus*, and this may perhaps explain the inadequacy of his treatment of the former; I think also that the view that the *Laws* is the latest of Plato's works has played some part in leading him to underestimate its importance. Now I do not see on what evidence it is possible to decide whether the *Timaeus* is an earlier or a later work than the *Philebus*. For a good reason linguistic statistics can hardly help us much in the matter, and there does not seem to be any other ground to go upon. Bäumker, whose judgments in such matters are those of a very competent and very careful critic, has argued for regarding the *Philebus* as the later of the two, and it certainly contains some developments of which Timaeus is only allowed to drop darkling hints. And as to the *Laws*, though it may very well be true that Plato was still engaged on it when he died, (as a tradition of later antiquity recorded), and that it is thus in one sense his latest work, the composition must obviously have occupied a great many years, and there seems good reason to think, with Eduard Meyer, that the book contains materials actually draughted by Plato, when he was engaged with Dionysius II. on a plan for the reform of the Sicilian cities rather more than twenty years before his death. However that may be, it is certain that the *Laws* can neither have been planned nor executed in the few last years of an old man's life, and it cannot therefore be disregarded as a product of exhausted senility.

Still, when all is said, I believe Dr. Benn is really "on the track" which leads to Plato's central thought in much that he says of the *Parmenides*. Only I feel sure that if he is to "hunt down" his quarry, he will have, like Socrates and Protarchus, to rely on three "Forms" and not on one. The *Laws* and *Philebus* will have to be utilised as well as the *Timaeus*. But I hasten to say that I now see more fully than I did in the days of an old controversy in MIND which Dr. Benn has thought it worth while to recall that there is a real difference between the doctrine of the *Phaedo* and that pointed to by the *Parmenides* and the dialogues which follow it, and that in particular an appeal on my part to the *Timaeus*, mentioned in the second footnote to page 227, was vitiated by my failure to recognise that the speaker in the passage quoted is not Plato but Timaeus.

I may perhaps add one or two other remarks on some points of Dr. Benn's exposition. I think it a mistake to attach as much importance as he does to the famous "Form of the Good" of the *Republic*. I cannot think that Plato's mind was quite so preoccupied with that as Dr. Benn does. As Jowett long ago observed, the "Form of the Good" is never mentioned at all in Plato except in the one passage of the *Republic*. The "Good" of the *Philebus* and of the

famous "unwritten lecture" is quite another thing. Hence I should infer that if the *Republic* passage represents a view which Plato himself ever held, he at any rate did not acquiesce in it long, and the real development of his thought was on quite different lines. The fairly numerous references in contemporary comic poets to the Πλάτωνος ἀγαθὸν as a type of the obscure seem to me to refer to the speculations dealt with in the lecture on "the good" and not to the *Republic* passage at all; (the fundamental difference is that the "Good of Plato," as we learn from Aristotle, and can also see from the *Philebus*, was not a "Form" at all, but one constituent of the "Form-Numbers"). Nor again can it be correct to regard the God of the *Timaeus*, as Dr. Benn seems to do, as a "mythical" symbol of "the Good". For "the Good" is either (as in the *Republic* passage) a "Form," or, as in the doctrine Aristotle heard from Plato, a constituent in the "Forms," but God is, as we see from the *Laws*, a "soul". And the absolute distinction between souls and Forms is vital to Plato's philosophy, as the distinction between truths and the minds which know the truths must be for any philosophy. Altogether I am puzzled to know on what principle Dr. Benn determines what in the *Timaeus* is symbol and what is symbolised. He regards the Creator as a symbol, but credits Plato quite seriously with the belief that spaces can move about, and even reads him a lesson for making what, as Dr. Benn himself sees, is a purely fanciful and humorous use of Alcmaeon of Crotona's theories about the "circles in the head". Dr. Benn forgets that Plato is putting his discourse into the mouth of a Pythagorean of the fifth century, who is obviously meant to be as old a man as Socrates, if not older, and that in his mouth nothing could be more appropriate than such a reminiscence. Thus what is to Plato only a playful fancy would be quite appropriate as a serious utterance on the part of Timaeus.

Much of what Dr. Benn says about the *Sophistes* seems to me at once important and very happily put. But I do not fully understand his view that in these later dialogues Plato replaces the Form of Good by the notion of Identity as "the starting-point of his dialectical hierarchy". Surely Identity and Diversity are treated as correlatives and as standing at the same logical level in the *Sophistes* and all the later dialogues. There are *five* μέγιστα γένη, not one, in the *Sophistes*, and, on Dr. Benn's own showing, Diversity is as much a constituent of Being as Identity. I think also there is a grave confusion of thought in the statement that Identity is "distinctly qualified as non-existent, or, as we should say, 'purely ideal,' and realised only in combinations where its purity is lost" (p. 210). Or rather, I should say, there appear to be several confusions. What Plato says is not that Identity is "non-existent," but that it is not the same as Being, *i.e.* that is to say "*X is*" is not the same as to say "*X* is *identical* with something". The question of the distinction between what merely is and what exists does not really arise, since Being is no more an existent

than Identity. And the statement that "there is a plane curve to constant curvature" is as truly different from any assertion of Identity as the statement "There is a writer called Dr. Benn," though Dr. Benn is an existent and "the circle" is not. And it seems a further confusion to say that Identity is only realised in combinations in which its purity is lost. If this means anything it seems to mean that no assertion of an identity is really true. But Plato at least never says this, and it also seems to be false. What Plato says is (*a*) that Identity is different from Difference, from Motion, etc., and (*b*) that both Identity and Difference can be asserted about any term. But he does not say anything from which it can be inferred that such a proposition as "The general who won the battle of Pharsalia is the same person who was killed by Brutus and Cassius" is "partially false". There have been and are logicians who maintain this, but Plato is not among them. If all that is meant is that both Identity and Diversity can be asserted about any term we please, it is a very odd way of expressing this to talk of the "purity" of Identity being "lost".

I should next speak of Dr. Benn's contribution to the most perplexing of all Aristotelian problems, the doctrine of the imperishable *intellectus agens*. But before I do so, I must make one remark on a point of astronomical theory in which Dr. Benn falls into a common but most unfortunate error. Speaking in passing (p. 267, note 1) of the Platonic astronomy, Dr. Benn expresses a doubt whether Plato recognised the revolution of the earth, adding the remark (after Grote) that if he did, he overlooked the inconsistency between this admission and the theory of the revolution of the "celestial spheres"; and making the curious suggestion that the revolution of the earth was probably at first inferred by analogy from that of the "spheres". Now as to the question of fact, if it were in any doubt, the evidence of Aristotle ought to settle it, confirmed as it is by the explicit testimony of Theophrastus. If Aristotle cannot be trusted to know whether Plato said that the earth moves, there is an end of all reliance on human testimony. But fortunately the point is settled by appeal to the text of the Platonic MSS. themselves. In *Timaeus* 40c there is no manner of doubt that the true text is *γῆν . . . ἰλλομένην δὲ τὴν περὶ τὸν διὰ παντὸς πόλον τεταμένον*, and this admits of only one translation. The whole controversy between Boeckh and Grote might have been avoided if the ninteenth century editions of Plato had honestly printed the text as it stands in Paris A instead of concealing it in an appendix. The words mean that the earth revolves round the axis of the universe (literally "oscillates on her path about the axis which passes through the whole"). The "inconsistency" supposed by Grote only exists in his imagination. Not knowing the real text of the *Timaeus* passage, and correctly inferring from Aristotle and Theophrastus that Plato ascribed *a* motion to the earth, Grote very naturally supposes the words to refer to a rotation. On this theory it would

be true, as Grote thought, that the axial rotations of the "whole" and of the earth might cancel out. But this is not true of the two motions of which Plato is really speaking; they do not cancel out, and they do offer an explanation of the facts they are meant to explain, the irregularities in the apparent paths of the planets as seen from the earth. Grote's mistake is, in fact, a complicated one. Apart from his ignorance of the genuine words of Plato, he further assumed that, since the earth is spoken of, immediately after the words just quoted as "devised for a guardian of night and day," the motion ascribed to the earth must be intended to account for the alternation of day and night. But all that is really meant by these words is that night is the shadow of the earth, as Timaeus's contemporary Empedocles had said, so that this particular phrase would decide nothing either as to the general question of the earth's movement or as to the special character of the movement. It is a further error to suppose that the earth's movement was inferred "by analogy" from that of the "spheres," for the simple reason that, as the ancient commentators knew very well, the whole doctrine of the "crystal spheres" was, most unhappily, invented by Aristotle. There is not a word about these "spheres" in any pre-Aristotelian cosmologist, and least of all in the *Timaeus*, which speaks only of circular "orbits," a conception which goes right back to Anaximander. I dwell on the point at some length, because the habit of crediting Greek science in general with the retrograde astronomy of Aristotle makes it simply impossible to give any correct account at all of the real historical development of the sciences.

And now to come to the *intellectus agens*. I must confess that I have never myself been able to extract any very definite light from the few and broken phrases which are all we have of Aristotle's own account of this mystery, and cannot feel at all sure that he really had any very clear perception of his own meaning. All that I feel sure of is that there is no warrant at all in Aristotle's text for the identification of this *intellectus agens* with God, and that so far the Thomist interpretation of the doctrine is nearer the truth than that of Alexander or of Avicenna or of Averroes. Dr. Benn apparently would agree with me on this point since his own explanation (p. 307) is that what Aristotle means is "personal self-consciousness". This would, of course, bring his doctrine very close to the teaching of T. H. Green about the "spiritual principle in man," which, by the way, I have always supposed to have been derived from this very Aristotelian theory rather than from any of Green's German masters. I should therefore not like to deny that Dr. Benn may be right in his interpretation. But I should like to urge that, whether right or wrong, the theory, like every other attempt to solve the riddle, has grave difficulties to face, and that it is at least possible that the problem admits of no determinate solution for the simple reason that Aristotle's ideas were themselves

hopelessly confused. Dr. Benn is himself, I think, quite alive to some of the difficulties, but I am not sure that he faces them all. Aristotle, as he understands him, means that "the exercise of a self-distinguishing consciousness is a necessary condition of all other ideation" (so far, then, agreeing exactly with Green), and that this is "an aptitude not present in the individual human being from the first beginning of conscious life but acquired by intercourse with" adult companions. The second part of the statement Dr. Benn regards as true, but he thinks Aristotle mistaken in holding that "the presence of a self-distinguishing consciousness is necessary for the formation . . . of general ideas," on the ground that "children are entitled to be called rational beings before they become conscious of their personality as such".

If we take the first of my quotations from Dr. Benn simply as an exegesis of Aristotle's words, apart from the question of its truth to psychological fact, we are, I think, struck at once by a difficulty which Dr. Benn does not discuss. Aristotle, we are to understand, held that the "active intellect" is the "exercise of a self-distinguishing consciousness," and apparently it is this "exercise" (though I am not quite clear how far the grammatical structure of the sentence really corresponds to the author's thought), which is an acquired "aptitude". If we press these words, they would mean that Aristotle believed in an *ἐνέργεια* which is also an "acquired" *ἕξις*. Now there is no possible doubt that Aristotle insists very strongly that the *intellectus agens* is an *ἐνέργεια* (*cf.* *καὶ οὗτος ὁ νοῦς χωριστὸς καὶ ἀπαθὴς καὶ ἀμιγὴς τῇ οὐσίᾳ ὢν ἐνέργεια*, and *οὐχ ὁτὲ μὲν νοεῖ ὁτὲ δ' οὐ νοεῖ*). His language seems to force us to hold, as against Dr. Benn, that the *ἐνέργεια* in question has never developed out of a previous "aptitude" at all. (At least in the words I have quoted he seems to be explicitly denying this as emphatically as he can. And it is hardly likely that a critic who makes so much of the verbal point that the Platonists defined the "best life" as an *ἕξις*, when they should have called it an *ἐνέργεια*, would confuse the two terms in his own pronouncement on what he clearly felt to be a point of the highest importance.) There is really a grave difficulty about the phrase from which Dr. Benn gets his sentence about the "aptitude," the clause in which Aristotle says that the "active intellect" "makes" its objects *ὡς ἕξις τις, οἷον τὸ φῶς*. (I take it this is an anything but illuminating allusion to the passage about the sun and the "Form of Good" in the *Republic*.) As will be seen from Dr. Hicks's note on the words, even the text, on which Dr. Benn builds, is far from being above suspicion, and I think it plain that, if the words *ὡς ἕξις τις* are sound, *ἕξις* cannot here have the technical sense of "aptitude" "tendency". The "light" which "makes colours" is plainly not a *ἕξις* in the peculiar Aristotelian sense of the word, for light is according to the *de Anima* itself *ἐνέργεια τοῦ διαφανοῦς ᾗ διαφανές* and it is very much to the point that in the terminology which Plato had made current *ἕξις* really

means very often what Aristotle calls ἐνέργεια. On the whole then, I cannot believe that Aristotle really meant to describe the "active intellect" as an "aptitude" at all. But even if he did, I should feel more than a doubt about the further exegesis according to which this "aptitude" is acquired *by intercourse with others.* I cannot conceive that Dr. Benn holds this interpretation to have a foundation in any actual utterance of Aristotle; indeed, if I understand the drift of his remarks on page 306 about the passage in the *De Generatione Animalium* where it is said that νοῦς is the only constituent of man which is not derived by generation from his parents, he admit himself that there is no such utterance. The interpretation must thus be taken on its own merits and simply as a conjecture. Regarding it in this light, there still remains the serious difficulty that Aristotle clearly means to say that the "active intellect" is everlasting as much *a parte ante* as *a parte post.* (This is why he adds to his assertion of its eternity, οὐ μνημονεύομεν δέ, *i.e.* we cannot remember, was it as held by the believers in transmigration that we can, experiences from our ante-natal life). But an "intellect" which is thus everlasting clearly cannot at the same time be an aptitude "acquired" through social intercourse. And again, it seems quite clear that the "active intellect" is thought of as an imperishable constituent of the *individual* person, though, to be sure, it is not easy to see *what* individuality is left to it when we have excluded all the functions which Aristotle specifies as "perishable". Yet I find it incredible that he should have meant by the everlastingness of the "active intellect" no more than Dr. Benn makes him mean, that there always have been and always will be *some* self-conscious beings or others.[1] In a word, while I think Dr. Benn's interpretation does justice to some of Aristotle's deliverances, there are others which are quite incompatible with it, and I strongly suspect that no interpretation whatever can be found which would be compatible with all of them. I cannot but think that Dr. Benn's comparison of the doctrine with Spinoza's equally confused doctrine of the eternity of the mind goes more to the root of the matter. In both Aristotle and Spinoza I believe we have an attempt to graft conceptions, which are only intelligible on the theory of personal immortality upon a naturalistic doctrine with which they do not harmonise, and the natural result is that no interpretation of either can explain away the inevitable contradictions. This ultimate incoherence is not peculiar to Aristotle's psychology; it reappears in his logic and theology. Everywhere we find him trying to fuse naturalism and Plato, with the

[1] The meaning cannot be that, though human personality is wholly destroyed at death, there are some intellects, "the star-spirits," Dr. Benn says, whose reason never ceases to energise. For it is plain that whatever Aristotle is trying to say, he is at any rate talking about a certain constituent of my mind or your mind. The identification of this constituent either with God or with a "star-spirit" is really grotesque.

result that there is a rift running right through his whole philosophy and ruining its coherence.

ὄξος τ' ἄλειφά τ' ἐχέας ταὐτῷ κύτει
διχοστατοῦντ' ἂν σὺ φίλως προσεννέποις.

I have allowed this notice to run to far greater length than I had originally intended or than is perhaps proper in the case of a second edition of a familiar book. I can only plead in defence that, as Phaedo said to the Pythagoreans of Phlius, "it is always most delightful to me to recall" Socrates and his great successors "whether I am myself the speaker or listen to the discourse of another".

A. E. TAYLOR.

Theism and Humanism: being the Gifford Lectures delivered in the University of Glasgow, 1914. By the RIGHT HON. ARTHUR JAMES BALFOUR, F.R.S., LL.D., etc. London: Hodder & Stoughton, 1915. Pp. xv, 274.

MOST of the readers of MIND are probably already familiar with the general contents of this book, so that it is hardly necessary to give a detailed summary of it. Mr. Balfour's point of view is also well known from his previous writings and is not here substantially altered—though it is certainly, in some respects, more carefully explained. Some further light is, however, thrown upon it by the very interesting autobiographical sketch that is given in Lecture V. It appears from this that the position which he adopts was arrived at, at an early stage of his career, from reflection on the work of the natural sciences, and dissatisfaction with the empirical philosophy of J. S. Mill as an interpretation and justification of scientific method. In this of course he is not peculiar. Most of our British philosophy in the last generation can be traced to a similar source. In particular, the philosophy of T. H. Green and those who are associated with him grew out of reflections of the same general kind. The subsequent procedure of Mr. Balfour has, however, been very different from that of Green and others. Green sought to meet the inadequacy of the empirical school mainly by the help of Kant, and to a less extent by that of Hegel. Others have used the work of Hegel to a greater extent; some have been largely influenced by Lotze; some have tended to go back to Plato or Aristotle; some even to Berkeley or Protagoras; and some—of whom Mr. Bradley is the most conspicuous—have attempted fresh metaphysical constructions. Mr. Balfour has not adopted any of these methods; nor, it would seem, has he been much influenced by those who have. So far as he is connected with any previous school of thought, his affinity would appear to be with Reid, rather than with the philosophers either of Greece or of Germany. He appeals to Common Sense, *i.e.* to the inevitable

beliefs of the 'plain man'. He has a profound distrust of metaphysical constructions, though his scorn of them is a good deal more gentle and sympathetic than that of the plain man—especially the plain English man—commonly is; and his interpretation of the beliefs of Common Sense is certainly more subtle than that of Reid. Now, it is not possible here to discuss the general basis of this philosophical position, which has already been before the public for a considerable time. I must content myself with the remark that, if Mr. Balfour would inquire more fully into what are described as inevitable beliefs, he would probably find that what is inevitable is certain tendencies to feel and act, and that the beliefs by which we seek to interpret these tendencies are not inevitable, but are subject to indefinite modification. If we mean by a belief the acceptance of some definite proposition as true,[1] I should doubt whether any belief is inevitable. Even such a simple statement as 'I feel pain' becomes doubtful as soon as I ask what exactly is meant by 'I,' by 'feeling,' and by 'pain'. The experience on which the statement is based, is inevitable; but the belief is an attempt to interpret the experience, and it may be, in some degree, erroneous.[2] And I think this is true of all beliefs. But it is hardly necessary to press this point, since Mr. Balfour fully admits it with regard to the particular belief with which he is here concerned. He does not maintain that the belief in the existence of God is inevitable, but only that it is more or less definitely implied in some other beliefs or experiences.

The title of this series of Lecture is *Theism and Humanism*; but neither of these terms is very precisely defined. Humanism, indeed, is hardly referred to at all. I understand Mr. Balfour to mean by it, not a special theory, but rather all those things that are specially characteristic of man—such as the pursuit of truth, the appreciation of beauty, the effort after goodness. Theism seems to be interpreted in the sense of Monotheism—*i.e.* the conception of a single personal Being, distinct from the Cosmos, but to be regarded as its Creator. It hardly appears, however, that this conception is definitely brought out in the course of the argument. In general, Mr. Balfour seems to be mainly concerned to urge that certain beliefs to which we are inevitably led cannot be satisfactorily interpreted by any materialistic theory, and especially not by the Darwinian theory of evolution, and that hence we are led to look for some spiritual interpretation of them. Why that interpretation should be monotheistic is, so far as I can see, no-

[1] It is sometimes held that belief is essentially a tendency to act; but this is one of the doctrines of that Empiricism against which Mr. Balfour contends.

[2] From failure to observe this distinction, I think Mr. Balfour tends to misrepresent the attitude of Hume (as Reid also did). Hume accepted customary modes of behaviour, like most other men. It was only the theoretical implications, supposed to be involved in such behaviour, for which he could find no satisfactory basis.

where made apparent. Mr. Balfour, indeed, explicitly recognises that there are two divergent views with regard to the spiritual interpretation of the Universe—views that may be roughly characterised as Pantheistic and Monotheistic respectively. The former commends itself more particularly (again speaking somewhat roughly) to the metaphysician, the latter to the moralist. Both commend themselves to certain types of religious feeling. I think Mr. Balfour might have added that a Polytheistic interpretation commends itself, in general, to the artist. Goethe, who had a strong interest in all these points of view, definitely adopted all the three methods of interpreting the Universe, using each of them when it happened to suit his special purpose. Not being a constructive philosopher, he did not conceive it to be his business to attempt to reconcile them. Mr. Balfour's attitude appears to be similar, except that he recognises only two methods of spiritual interpretation, and that he definitely confines his attention to one of them. I believe that, by so doing, he seriously weakens his case. It is easier to maintain that some spiritual interpretation of the Universe is necessary for certain purposes, than to maintain that it must be a monotheistic interpretation. Some of Mr. Balfour's arguments seem to me to have considerable force with reference to the more general contention; but I cannot find that they have any force at all with reference to the more specific one; and, even with regard to the more general contention, they do not seem to be quite convincing. Indeed, it would appear that Mr. Balfour himself does not regard them as quite convincing, but only as furnishing us with beliefs that have a certain degree of probability. It would probably be an unfair summing up of his position to say that his contention is that, if we believe certain things with sufficient vagueness, we shall probably not be far wrong; yet this is on the whole the impression that he often appears to convey.

He begins by explaining that the argument from design, in its old form, in which it had been already refuted by Kant and others, has been finally overthrown by the Darwinian doctrine of evolution. He urges, however, that, in a certain sense, it still has value. Darwin's theory only accounts for the selection of certain types: it does not explain their production. This, I suppose, would be generally admitted; and, though Mendelism has probably thrown some further light on the production of types, and there may be other discoveries still in store for us, it seems to be still true, as Mr. Balfour urges, that we have at least to recognise that the Universe is of such a kind as to permit of the production of spiritual beings; and that this is fatal to pure materialism. This line of argument appears to me to be valid. If it were further developed (as it is, for instance, by Prof. Bergson) it might lead to a remodelling of our view of what is implied in evolution, and prepare the way for a more spiritual conception of the Universe. But it does not appear to carry us very far in the direction of Theism, in

the sense in which Mr. Balfour appears to understand it. M. Bergson's philosophy is pretty obviously akin to that of Plotinus, and perhaps to that of Schopenhauer; and, I suppose, neither of these would be regarded as theistic. The mere refutation of materialism does not help us much. There are very few pure materialists at the present time. As Mr. Balfour well says, 'we now know too much about matter to be materialists'. Even Agnostics, such as Huxley or Herbert Spencer, or Monists, such as Haeckel, cannot be regarded as pure materialists. Spencer, for instance, conceived that the Absolute has to be regarded as super-personal; and surely what is super-personal is spiritual.[1] What he desired was that the nature of the Absolute could be further determined. In this sense Mr. Balfour himself appears to be an Agnostic.[2] He differs from Spencer, however, in carrying his doubt farther. If he is akin to any of the Greeks, it is to Gorgias. He considers that other things, as well as the Absolute, are unknowable; and that all the deeper truths can only be grasped by faith, or by means of what he calls 'intuitive probability'.

His doctrine of intuitive probability, though it is only introduced near the end of the present series of Lectures, appears to be so important and interesting a part of his philosophy, that it may be well to notice it at this point. He urges that we commonly, and legitimately, speak of probability in a sense that is quite different from that in which probabilities are calculated by mathematicians; and this appears to me to be true. When we say that some scientific theory (such as some form of the atomic theory or of the theory of evolution) is probably true, or that it is probable that the sun will rise to-morrow, we are not using the term in quite the same sense in which it is used when we say that there is a certain probability that a coin that is tossed will fall on one side rather than on another. I am not sure, however, that Mr. Balfour quite succeeds in bringing out the essential difference. The tossing of the coin seems to illustrate both senses. It is probable, in one of the senses, that it will fall on one side; and, in the same sense, it is equally probable that it will fall on the other. It is probable, in the other sense, that it will fall either on the one side or on the other, and not on both at once. It is just conceivable, however, that it might fall on its edge, or that it might split in two and come down on both sides or on neither; but these possibilities are so improbable as to be negligible. In the one case, there are two or more things that may happen, and we can calculate the probability

[1] Mr. Balfour himself seems to suggest (pp. 20-21) that God ought to be thought of as super-personal. But this depends partly on what is properly to be understood by personality—how far, in particular, it implies any necessary limitation.

[2] No doubt the term is generally interpreted in a more negative sense than this; but I do not understand that it was so intended by its best exponents.

of each. In the other case, there is only one thing that is probable; but it is not absolutely certain. In the one case, we are not entitled to believe that any one of the events will take place.[1] In the other case, we are entitled to believe some more or less definite statement, though not with complete assurance. Now, Mr. Balfour's contention is that all that we call knowledge, whether about the Absolute, or about the processes of the physical world, has only a certain degree of probability in the second of these two senses. And, so far, he seems to me to be right. But when he calls this kind of probability 'intuitive probability,' he appears to be on more treacherous ground. Our belief that a coin will fall either on the one side or on the other and not on both, or that some form of the atomic theory or of the theory of evolution is true, appears to rest on definite grounds, though the grounds may not be such as to carry complete conviction. But Mr. Balfour urges that, in some cases, there is no definite ground except an intuition. This calls for consideration.

He takes as instances of this the anticipation of scientific theories before they have been definitely tested—such as the anticipation of the atomic theory by Democritus or that of the conservation of energy by Descartes and Leibniz. Now, it is probably true that almost every important scientific theory has been guessed before it was established. In the work of the early Greek philosophers there are anticipations of almost all our modern science and philosophy. In a sense, this may be said to imply a kind of intuitive insight; but hardly, I think, in any sense in which intuition is contrasted with intellectual construction. Mr. Balfour seems to indicate the true explanation when he lays emphasis on the aspect of orderliness in the world. Scientific and philosophical thinkers—and indeed even 'plain men' to some extent—are constantly looking out for what is orderly and intelligible. This is the presupposition of the work on which they are engaged. If we are to speak of Laws of Thought at all (perhaps it would be better to call them Implications of Thought), the principle of objective order may surely be regarded as one of the most fundamental of them. The world that we apprehend lends itself, in some degree, to interpretation by means of this principle. If it did not, it seems clear that there would be no such thing as science, or even of thought at all. We should be involved in a chaos much more complete than the Heraclitean flux or the Disorder of Anaxagoras. But do

[1] It may be noted here that Mr. Balfour appears to think that it is involved in the doctrine of chances that, if we went on tossing a coin long enough, it would fall an equal number of times on each side. I think this is erroneous. So far as the doctrine of chances is concerned, there might be an indefinite run of luck in favour of one side. This is improbable, and we should at once suspect some cause of the uniformity. But the probability of such a cause is probability *in the other sense*. Of course, the two senses are not wholly distinct: they relate to different types of uncertainty.

we need to postulate an external God to account for the order that we discover? It does not appear that we should have any right to make such a postulate. On the doctrine of chances, a world that is partially ordered would seem as likely as one that is a perfect Cosmos or a perfect Chaos. Nor does it seem very difficult to understand how it is that even the plain man is led to anticipate order. Even the lower animals appear to be able, in some degree, to apprehend the orderly sequence of day and night, some causal relations, and other modes of order, and to be in some degree surprised when the customary order is broken. Human beings expect order in a more conscious way, and are constantly seeking either to find it or to make it. This is a guiding principle in all thought and action. It is one that sometimes misleads us to too hasty applications, and so becomes, as Bacon noted, one of the *Idola* against which we have to guard. But it is also the source of some of our happiest inspirations. Both its value and its dangers are well brought out by Mr. Balfour in his illustrations from the atomic theory and the principle of conservation. But I think he makes of it too much of a mystery. It does not seem, by itself, to lead us to any form of Theism, though it may suggest the view that the world is an organic unity, or even that it is in its essence spiritual. If it is in its essence spiritual, the question as to its origin would seem to be irrelevant—perhaps even meaningless. But to show this would call for a philosophy of a more systematic type than any that Mr. Balfour supplies. Unless the Universe that we apprehend can be shown to be essentially spiritual, it does not seem possible to infer any spiritual principle outside of it. On the other hand, if it can be shown to be self-explanatory, as Hegel thought, there would be no point in inquiring into its origin.

He lays much stress also on some æsthetical and ethical considerations. The most important point seems to be that we recognise certain forms of beauty and goodness as having intrinsic worth, and not merely the survival value, which is all that we should expect in accordance with the doctrine of evolution. This is probably valid as bringing out the inadequacy of the Darwinian theory; but it has been forcibly urged—notably by Dr. G. E. Moore—that intrinsic value may be recognised without any doctrine of Theism, and even without any theory of the spirituality of the Universe. Mr. Balfour may disagree with Dr. Moore (as, in some respects, I also do), but at least his contention seems to deserve consideration. Apart from this, Mr. Balfour's argument seems to me to carry conviction.

He is, I think, less convincing when he urges that the higher forms of beauty and goodness have no survival value. He states his case here with great caution. He is inclined, in particular, to question some of the extreme statements of Huxley with regard to the opposition between the moral life of man and the cosmic pro-

cess. I think he might have gone a little further. When it is seen, as some recent evolutionists have urged, that mutual aid is as important for the survival of animal species as anything that can properly be described as struggle, the difference in this respect between human and animal life has to be regarded as only one of degree. It may be doubted whether it could be shown that anything that cultivated people admire, either æsthetically or ethically, is wholly destitute of value for the preservation of the lives of individuals or societies or of the race in general. Certainly it seems to me that what has intrinsic value in living beings has nearly always some survival value as well. But this is a pretty big subject, and must on the whole be left to biologists and sociologists.

I must confess that one of the other arguments that Mr. Balfour uses with regard to æsthetics, and to which he seems to attach considerable weight, does not carry any conviction to my mind at all. He urges that beauty in art is essentially expressive, and implies an artist; and hence he argues that beauty in nature must carry a similar implication. No doubt, when we are interested in any work of art, we tend to take an interest in the artist, and sometimes—in lyrical poetry, for instance—the two things are almost inseparable. But, in general, it seems to me that the interest in the artist is biographical or historical, rather than æsthetical. The æsthetical value of the 'Iliad' appears to be independent of the question—however interesting it may be in itself—whether it had one author or many; and, if it could be supposed to have come into being without any author at all, its purely æsthetical value would appear to be unaffected. Mr. Bernard Shaw, in one of his amusing plays, represents Shakespeare as picking up choice phrases for his poems from current discourse, and jotting them down in a note-book. If we could suppose his poetry to have been constructed in this way, it might seriously affect our view of his genius, but surely it would not affect the message that his works convey. We know very little of the makers of the old Cathedrals. Perhaps, as Emerson said, 'they builded better than they knew'; but if the stones grew unconsciously to beauty, at least they may take their place 'with Andes or with Ararat'. Their expression is what they mean for us, not necessarily what they meant to any one before us; though, of course, in the case of works of art—especially poetry—we like to think of the fine qualities of mind and heart that must have been present in their creators.

Mr. Balfour urges, further, that the highest forms of art imply some belief in spiritual reality. This is apparently an argument in support of the value of the belief, rather than of its truth; and it is not obvious that the one implies the other. Some illusions may have intrinsic value. In any case, it is doubtful whether it is a good argument in support of Theism. Mr. Balfour seems to hint that Lucretius and Shelley would probably have been better poets if they had been Theists. History hardly appears to support

such a view. Of all peoples, I suppose the Jews and the Mohammedans have been the most ardent Theists; but it is certainly not self-evident that they have been the finest artists. Puritanism, which was pretty strong on the side of Theism, was not so strong on the side of art. Its greatest poet—who learned his art in a different school—failed, rather conspicuously, to make God the Father a poetic figure. Even to Death and Sin he gave more vitality, not to speak of Satan, who is often regarded as the hero of the poem, and with whom many are almost 'inevitably' led to sympathise in his revolt against the somewhat too Prussian 'tyranny of Heaven'. Greek art, when not purely human, was frankly polytheistic. For the mediæval artists there were at least three divine Persons (though it was chiefly one of them that they used, and that one the most human and the most tragic)—besides the Virgin Mother and legions of angels, saints and devils. Even more modern poets, of a not very heterodox type, have been known to wish that they might—

> Have sight of Proteus rising from the sea,
> Or hear old Triton blow his wreathèd horn.

There appears to be no real reason against the supposition of an indefinite number of spiritual beings (there are a considerable number of them on our own little planet); and it seems clearly to be the best supposition for the purposes of art. That pure materialism would be fatal to the highest forms of art, is probably true; but pure materialism hardly seems to be a theory that is worth considering. The belief that the Universe is essentially spiritual (if that could be established) would enable us to regard everything as either spirit or some manifestation of spirit.

Mr. Balfour has some interesting remarks on the study of history, regarded from the point of view of æsthetics. He urges that we have an æsthetic satisfaction in regarding it as the working out of a great purpose; and this, he thinks, implies that we look at it from a more or less definitely theistic point of view. I suppose the work of Carlyle would be a good illustration of the method of treatment to which he refers; but it is doubtful whether Carlyle's somewhat vague mysticism can be properly called theistic. Indeed, it may be questioned whether any theistic writer has ever set the drama of history before us in a more impressive way than that of Thucydides or Gibbon. The mention of Thucydides naturally suggests that the interest of history might very well be that of a poignant tragedy, like that involved in the crumbling of the Athenian state. It is of a similar fall that Gibbon treats. Mr. Balfour is probably acquainted with the striking Essay by Mr. Russell on 'The Free Man's Worship,' in which it is shown how the whole history of human life might be viewed as an appalling tragedy, lit up by the recognition of the objective reality of the Good. I suppose the religion of Buddhism would fit in rather well

with such a conception. Such a view is certainly sad; but some of our sweetest songs have told of saddest thought. Tragedy is not one of the lowest forms of art.[1] Even the 'Divine Comedy' of Dante has much in it that is in the highest degree melancholy; and, though it concludes with a sublime joy, it may be doubted whether it is a finer work of art than 'Hamlet' or 'King Lear'. The frustration of human effort may have as deep an æsthetic significance as its success. 'Faust' might, no doubt, be referred to as supplying, for the modern mind, a more satisfactory Theodicy than any of those that have been mentioned; but Goethe's treatment of human life and history is largely symbolic ('Alles Vergängliche ist nur ein Gleichniss'); and, as already noted, Goethe can hardly be claimed as being, in any very definite sense, a Theist. The work of Browning might perhaps approximate more nearly to the kind of interpretation of human life and destiny that Mr. Balfour would approve; but, inspiring as it is, it can hardly be contended that his attempts to give artistic form to theological doctrine are (with a few exceptions) the most successful part of his work. In general, it would not be easy to show that the artistic interpretation of life has been helped by Theism.

In dealing with the problem of Ethics, Mr. Balfour expresses incidentally his agreement with Nietzsche, in thinking that Christian morality cannot really be retained in separation from Christian doctrine. This depends a good deal, I should suppose, on what is regarded as being included in Christian morality and in Christian doctrine. The parable of the Good Samaritan needs no dogma to enforce its lesson. Surely most of the Christian virtues commend themselves to us both by their social utility and by their intrinsic beauty. There have been few more enthusiastic prophets of Christian morality than Tolstoy, who did not believe either in the special divinity of Christ or in the personality of God. With some qualification, a similar remark might be made about Ruskin. Of course, those who have learned to doubt one kind of traditional belief may very easily go on to question another. A critical intelligence is not likely to accept any traditional view quite in the form in which it has been handed down. I should be surprised to learn, for example, that Mr. Balfour himself accepts the principle of non-resistance to evil (or the injunction to 'take no thought for the morrow'), without considerable qualification. On the other hand, many moderate pacificists—and even some rather extreme ones—would not describe themselves as Christians (even in the sense in which Tolstoy might be said to have been one). Indeed, I suppose there are more non-resisters in China than in Christendom. Any one in Christendom who should try to practise the whole of Christian

[1] It is perhaps true that a tragedy, to be artistically satisfactory, must be relieved by something that is not wholly sad; but it is certainly not clear that the relief need be anything so palpable as Theism, or even as a spiritual conception of the Universe.

morality literally, would certainly be regarded as somewhat eccentric. On the other hand, the virtues that are actually cultivated and admired in Christendom are surely not very widely different from those that were cultivated and admired in ancient Greece (though no doubt there has been some change of emphasis). On the whole, there does not appear to be any logical, though there may often be a very strong psychological, connexion between the main principles of Christian morality and its more speculative dogmas. Certainly Nietzsche, though in some other ways instructive (especially on the transvaluation of values), can hardly be accepted as a good authority on logical connexions.

Another interesting problem that is incidentally raised by Mr. Balfour, has reference to the predictability of human action. His contention is that the prediction of results, even of a purely physical kind, is dependent on the negligibility of minute differences. In the case of living beings, the differences are not negligible ; and hence, even if we grant the doctrine of pure determinism, the actions of living beings, and especially of human beings, could not be predicted. This point does not appear to have any direct bearing on the main argument of the book ; and we need not, therefore, dwell upon it at much length. It may be noted, however, that it seems to relate only to prediction of a purely mathematical type, such as that suggested by Laplace. If there are definite laws of the variations of living beings—such as those that appear to have been discovered by Mendel—it would seem to be theoretically possible to forecast their development. Similarly, if there are definite psychological laws affecting mental growth, the prediction of human action would seem to be theoretically possible—unless there is some real contingency, as Dr. Ward and others contend. But of course it would be too complicated to yield any practical certainty.

I trust the criticisms that I have ventured to make will not be taken to imply any lack of appreciation of Mr. Balfour's work. Probably I have in some cases failed to grasp his exact meaning ; and almost certainly I have done him some injustice through not sufficiently taking account of the class of readers for whom his book is chiefly intended. I think it ought to be very good for any materialists or materialistic agnostics who may still be left. It is a pity that Leslie Stephen is not alive to read it—though I fancy he might have had something to say in reply. But many will feel, I believe, that some of its arguments are sophistical, and that it raises more doubts than it removes. It would be an impertinence to praise the lucidity and brilliance of its style, the ingenuity of its reasoning, or the wide range of the knowledge that it displays. I hope it may not be counted an impertinence to suggest that its main value is not intrinsic, but lies rather in the stimulus that it may give to a large number of readers to seek for a more systematic treatment of the great problems on which Mr. Balfour has so skilfully, and yet so lightly, touched. It would hardly be possible to

read his book intelligently without receiving such a stimulus. Happily some of the other Gifford Lectures provide, to a certain extent, the necessary sequel. It is to be hoped that Mr. Balfour himself will do something further in this direction.

J. S. MACKENZIE.

German Philosophy and Politics. By JOHN DEWEY. New York: Henry Holt & Co. Pp. 134.

THE War came as a terrible shock to the intellectuals everywhere. It revealed that the actual world was a very different thing from the cosmic order they had constructed in their minds, and threw them into disorder. They reacted upon the intrusion of unwelcome fact by a multitude of affirmations, manifestoes and pamphlets which in general will be neglected by the historian as the pathetic outcries of anger and anguish, attesting how very human professors also may be in a crisis. Yet even in their distress they clung instinctively to their professorial ideal. Even though the rational order of human affairs was shattered before their eyes and the belief that thought controls man's feelings and determines his acts should have been among the first of the illusions swept away in the wreckage of the war, they insisted on finding ideal reasons to which to attribute the catastrophe. The intellectuals on each side paid those of the other the compliment of accusing their teaching of bearing the moral responsibility for the war, and even if they did not diffuse much light nor exactly prove their case, they managed at any rate to prevent the public from becoming totally oblivious of the existence of professors.

But what, if anything, had Darwin to do with the most ferocious struggle for existence ever seen among tribes of men, or Nietzsche and Treitschke with the running *amok* of Germany? It could not perhaps be expected that any of the belligerents would discuss these questions calmly and connectedly, and even among the neutrals there were not many qualified by their knowledge, temper and philosophy to treat them judicially. It must therefore be accounted a singular piece of good fortune that Prof. Dewey was given the opportunity of delivering these three lectures on the Two Worlds of German Philosophy, German Moral and Political Philosophy, and the Germanic Philosophy of History, in the University of North Carolina. The result is an entirely admirable book, clear, calm, cogent, and popular without being shallow. Prof. Dewey was assuredly the ideal person to handle the subject. For though he had made a deep and sympathetic study of German philosophy, he had in the end turned away from it to become a leader in the movement which is most highly antithetical to the traditionally German type of philosophising. It must not indeed be alleged

that the Anglo-Saxon world has a monopoly of the pragmatic habit of mind; for all men have to act and pragmatism is only the theoretic apprehension of the attitude which imposes itself on every agent everywhere. But it is probably right to regard this habit of mind as characteristically congenial to Anglo-Saxon life, and it was a perception of this that so infuriated our germanised professors, who prided themselves on their superiority to the vulgar practicality of the national bent. But all this only lends piquancy to Prof. Dewey's criticism of German ideas: he can not merely point out where they go wrong, but can at the same time point to a better way.

The whole argument is closely knit and highly instructive. Prof. Dewey begins with an emphatic challenge to the reputed influence of *pure* thought on human action. "There are no such things as *pure* ideas or *pure* reason"; most of what is ascribed to philosophic reflection "is in effect simply an idealisation, for the sake of emotional satisfaction, of the brutely given state of affairs, and is not a genuine discovery of the practical influence of ideas. In other words, I believe it to be æsthetic in type even when sadly lacking in æsthetic form" (p. 7). But, just because "genuine and vital ideas" are practical responses to the pressure of the environment, it is a mistake to "regard philosophic theories as practically innocuous as more or less amiable speculations" (p. 9), and to disregard the influence of philosophers. The philosophers themselves are to blame for this. "They have been taken mostly at their own word as to what they were doing, and what for the most part they have pretended to do is radically different from what they have actually done. They are quite negligible as seers and reporters of ultimate reality, or the essential nature of things. And it is in this aspect that they have mostly fancied seeing themselves. Their actual office has been quite other. They have told about nature and life and society in terms of collective human desire and aspiration as these were determined by contemporary difficulties and struggles" (pp. 9-10). But just because their thinking was *not* 'pure,' it was not irrelevant to the guidance of life; it had influence, for good or ill.

The "highly technical, professorial and predominantly *a priori* character" of classic German thought seems a piquant challenge to this interpretation of the social function of philosophy. Yet it really affords it confirmation. For the Germans appear to "have philosophy in their blood". This really means that "Germany is the modern state which has provided the greatest facilities for general ideas to take effect through social inculcation" (p. 14). Hence the ideas of her academically influential philosophers pervade the minds of her rulers.

Prof. Dewey proceeds to exemplify. The contemporary attitude of intellectual Germany is not due to Nietzsche, but is rooted in the old classic 'idealism'. To the Kantian dualism between the

outer and the inner realm is traced the "combination of self-conscious idealism with unsurpassed technical efficiency and organisation" (p. 28). Thus it is that "while the Germans have been the most technically pragmatic of all peoples in their actual conduct of affairs, there is no people so hostile to the spirit of a pragmatic philosophy" (p. 30). Yet the Kantian way of reconciling indulgence in ideals with practical efficiency has its dangers. There is no give and take about *a priori* truths, and they do not yield to experience, especially when we take our prejudices and predilections to have this transcendental sanction. Hence "weapons forged in the smithy of the Absolute become brutal and cruel when confronted by merely human resistance" (p. 43).

Moreover Kant's ethics, being "the gospel of a Duty devoid of content, naturally lent itself to the consecration and idealisation of such specific duties as the existing national order might prescribe. The sense of duty must get its subject matter somewhere, . . . and concretely what the State commands is the congenial outer filling of a purely inner sense of duty" (p. 53). Moreover "persons who profess no regard for happiness as a test of action have an unfortunate way of living up to their principle by making others *un*happy" (p. 58).

Finally, it is only necessary to conceive the State as a sort of sacred force "consecrated to the assertion and expansion of final goods which are spiritual, moral, rational" (p. 58), to start the post-Kantian glorification and deification of this nationalist all-absorbing organisation. Kant himself remained a cosmopolitan individualist who aspired to an international federation of mankind that would enjoy perpetual peace; but Fichte effected an alliance between German idealism and Prussian realism. The divine right of the national State was excogitated by him, after Jena. Yet "in the grosser sense of the words Germany has not held that might makes right" (p. 88). It has only "been instructed by a long line of philosophers that it is the business of ideal right to gather might to itself in order that it may cease to be merely ideal. The State represents exactly this incarnation of ideal law and right in effective might. The military arm is part of this moral embodiment. That war demands self-sacrifice is but the more convincing proof of its profound morality. It is the final seal of devotion to the extension of the kingdom of the Absolute on earth" (pp. 88-89).

This philosophy "stands and falls with the conception of an Absolute" and "philosophical absolutism may be practically as dangerous as political absolutism. . . . Any philosophy which is not consistently experimental will always traffic in absolutes no matter in how disguised a form. In German political philosophy, the traffic is without mask" (p. 89).

In Hegel, in spite of his idealism "the greatest realist known to philosophy—he might be called a Brutalist" (p. 107), the ex-

altation of the State is completed. He regarded the State as the individual of history, and history as "the evolution of the Absolute, moving from one National Individual to another" (p. 115). War moreover was implicit in his 'dialectic,' as the 'negation' assuring a higher synthesis of 'Reason'. It is also "the most effective preacher of the vanity of all merely finite interests; it puts an end to that selfish egoism of the individual by which he would claim his life and his property as his own" (p. 119).

Prof. Dewey infers from this whole development that in it too the formation and vogue of philosophic ideas have been controlled by politics. Yet "even if we went so far as to say that reigning philosophers simply reflect as in a mirror contemporary social struggles . . . when what a people sees in its intellectual looking-glass is its own organisation and its own historic evolution as an organic instrument of the accomplishment of an Absolute Will and Law, the articulating and consolidating efficacy of the reflection is immensely intensified" (p. 123). Outside Germany, German idealism has had a certain professional and literary influence, mainly on the teaching of philosophy, but in Germany it has been "both indigenous and widely applied" (p. 124).

The question which, according to Prof. Dewey, the present crisis should force upon thoughtful persons is that of "the value for the general aims of civilisation of a philosophy of the *a priori*". Seeing that the world scene presents "*a priori* and absolutistic philosophy gone into bankruptcy, what type of general ideas is available for the articulation and guidance of our own life?" (p. 124). Philosophy in America must meet the conditions of American life. Now these are pragmatic. "Outside narrow and professorial circles," "our working principle is to try to find out by trying and to measure the worth of the ideas and theories tried by the success with which they meet the test of application in practice. Concrete consequences rather than *a priori* rules supply our guiding principles. . . . That such an experimental philosophy of life means a dangerous experiment goes without saying. It permits, sooner or later it may require, every alleged sacrosanct principle to submit to ordeal by fire—to trial by service rendered" (pp. 125-126). It differs from the older empiricisms in not being restricted to precedents; "consequences rather than antecedents measure the worth of theories". But it must not "set less store upon methodic and organised intelligence, but more". It is unwise "to trust to an empirical philosophy of muddling along". "We must learn from Germany what methodic and organised work means" (p. 128). But there must be free choice of ends as well as of means, and Prof. Dewey worthily concludes his eminently sane and stimulating lectures with a suggestion that in face of the present "breakdown of the whole philosophy of Nationalism" the mission of America, inter-racial and international as she is, is not merely to keep the peace but to intervene actively to promote human inter-

course irrespective of class, racial, geographical and national limits.

Alike as a philosopher and as a pragmatist I have every reason for whole-hearted approval of Prof. Dewey's argument. And yet I am at times troubled by a doubt whether he has not himself succumbed a little to the professional temptation he rebukes so well, and gone too far in magnifying the office of philosophy. He is right no doubt in thinking that if the political attitude of Germany has been inspired by any philosopher it is by Hegel rather than by Nietzsche, and also that the Hegelian theory of the State was merely exaggerating in technical and abstract language the actual organisation of Prussia. This at any rate the Prussian State itself supposed; this was why for twenty years it allowed Hegel to nominate the professors of philosophy throughout the Prussian universities. But is it the whole story? The large and influential section of our rulers which was educated at Balliol by T. H. Green and his followers has been for years indoctrinating us with this same theory without any terrible effects. So may not the verdict of history on the great War ultimately be that philosophic ideas had as little to do with it as with other wars? Partly because neither the masses nor their rulers are wont to trouble themselves greatly about ideas anywhere, partly because in times of stress the ideas men tend to are far simpler and more primitive than any philosophy can proffer. The all-but perfect unanimity, for example, which every belligerent people has exhibited cannot surely be attributed to any philosophic agreement. In every country the most divergent beliefs and ideals continue to be held. But these divergences were rendered irrelevant to the situation. The governments everywhere managed to convince their peoples that they were fighting in defence of their life, property and national existence. These are, and always have been, the primary motives that send men to the battlefields, though at various times governments have eked them out by appeals to honour, glory, loyalty, religion, plunder and (now) 'nationality'. All this was as true of the Germans as of the other combatants. The stage-managing of their government was good enough to convince them, apparently to a man, that they were fighting essentially in self-defence. It is hard to see therefore why men who believed this should burden themselves with philosophic justifications of aggressive warfare, though no doubt it was natural enough that their enemies, who believed in the case made out by their own rulers and regarded them as the aggressors, should ransack German literature to find in it corroboration of their suspicions. Of course they found it; for violence and war have their prophets in every country. What is lacking is the proof that these prophets had sufficient honour in their country to occasion the catastrophe. But perhaps it will be contended that the German government at least was the victim of a false philosophy. This too is hard to prove. For though that government no doubt had its

own reasons for making the war, it is very unlikely that it published them, and certain that it did not take Nietzsche and Bernhardi into its counsels. It seems more probable that its motives did not differ essentially from those that have always prompted governments to go to war.

It is however rather an academic question to dispute how great was the influence of their philosophies upon the Germans, and it is more important to take to heart Prof. Dewey's warnings that when it comes to action rationalistic principles have to be set aside and success has to be achieved by pragmatic methods, while nevertheless the mental rigidity fostered by rationalistic beliefs will render action less adaptable, more fanatical and less humane. The former of these considerations renders it impossible for rationalism to achieve the theoretic aim of philosophy, the conceptual unification of life; it cannot rid itself of the dualism of 'theory' and 'practice,' and cannot see that each is and must be relevant to the other. The latter leads to its practical defeat; for, whatever the outcome of the present struggle, it is impossible to believe that in the long run the blind dogmatism and narrow pedantry which rationalism tends to when acted on will prevail over the pragmatist's open-minded willingness to experiment and learn unendingly. For the world we are trying to inhabit and control is too vast, too variable and too subtle to be caught within the bounds of any rigid system, and every step we advanced was to be won only by the unceasing correction of the human fictions that were discarded as 'errors' so soon as a more serviceable substitute for them could be devised. Yet these 'errors' reigned in their day as 'truths,' and our reigning truths are fabricated out of the same stuff by the same hands; is it necessary then, or wise, to delude ourselves by conceding absoluteness to our present dynasties?

F. C. S. SCHILLER.

The Problem of Knowledge. By DOUGLAS CLYDE MACINTOSH, Ph.D. London: G. Allen & Unwin, Ltd. 1916. Pp. xviii, 503.

THE purpose of this elaborate book is to give a critique of knowledge both mediate and immediate. Accordingly the author deals with the character of the knowledge obtained through perception, the relation of the senses to the intellect, the meaning of truth and of values, and the nature of scientific proof. The first of these problems is discussed at much greater length than the others, but the book attempts to be both systematic and complete. The conclusion is described as that of 'critical monism' in epistemology, and, more specifically, as that of 'critical realistic epistemological monism' with regard to the problems of perception.

Although the standpoint of the book is not Kantian (even if it may be described in some respects as an inverted Kantianism) the

term 'critical' is necessarily reminiscent of Kant, and there is resemblance at least in the absence of dogmatism which is the professed intention of both theories. This book, however, is critical in the usual sense also; for the bulk of it consists of the criticism of opposing theories. Certainly there are manifest advantages in leading up to a constructive statement through the reasoned rejection of other alternatives, and this progressive elimination is implied in the author's mode of exposition. Still, when we find that the execution of this design involves at least three parts of criticism to one of construction, we may reasonably wonder whether so much negative argument is really required in an argument intended to be constructive on the whole. It is plain that any writer who adopts this method sets himself a very difficult task. The species and varieties of theory on this important matter are so numerous that it is impossible to give an exhaustive critique of them all, and although, on a subject of this kind, there is comparatively little danger of diverging from the point in dispute, and so of being lost in *minutiæ*, it is scarcely possible at one and the same time to give an accurate exposition of opposing views, to preserve a due sense of proportion in the criticism of them, and to use this criticism as an instrument of further construction Moreover even the most modest of writers should remember Dr. Johnson's remark concerning the author of *Hudibras* 'that he who merely makes a book out of books may be useful but can scarcely be great'. It would be unfair to suggest that this book often looks like an annotated bibliography, but it is hard to suppose that the criticism it contains should require so much verbal quotation and mere summary, or that there ought to be an average of at least four references per page. And however useful it may be to have a systematic classification of epistemological theories (especially of those of recent and, principally, of American origin) there seems to be some lack of proportion in devoting more space to Prof. Hocking than to Plato and Berkeley together, even if Prof. Hocking's theory cannot be adequately described by a simpler title than that of 'mystical logical psychological idealism'.

After a short introduction the book begins with a critique of dualism in epistemology, and follows the traditional lines in its refutation of the Kantian thing-in-itself and kindred theories. If the interpretation of Kant is correct (and both interpretation and criticism are very summary) the refutation is certainly valid, and the same remark may be made concerning the other authors who are weighed and found wanting. A critique of idealism follows (psychological, logical or mystical), together with a criticism of what are called the disintegrated forms of idealism, a sort of idealism of the left. It would be impossible to attempt an adequate survey of this long, elaborate and carefully sub-divided discussion within the limits of a review, so it must suffice to remark that the author finds the *virus* of psychological (or subjective) idealism in-

fecting any form of idealistic theory. This kind of criticism has been heard before, and idealists have not been slow to accept the challenge; but if the criticism is not new, many philosophers believe it to be true. We should also note that the refutation of logical idealism (in so far as that theory can be cleansed of the taint of subjectivism) depends upon the presupposition that an idea (or predicate) is necessarily both abstract and representative, and that logical idealism is therefore mistaken in attempting to regard the world as constituted of predicates. Ideas on this theory, we are told, are only abstractions of an abstraction, a phrase which seems to mean that the 'logical idealist' ignores the fact that a predicate, considered independently, is an abstraction from a judgment, and cannot, therefore, be itself real.

The next step in the argument consists of a critique of realism old and new. This theory is discussed very fully, especially in the form in which it has recently been defended in America, and in connexion with such developments of it as behaviourism. The new realist is accused of dogmatism, of failure to give a plausible account of the *status* of images and of the objects of erroneous judgments of sense-perception, and of other mistakes and oversights among which the realistic theory that consciousness consists merely of a relation (apparently a relation between a subject, otherwise unspecified, and an object) is the first and chief. This latter interpretation may be justified in the case of some realists but surely most of the new realists maintain that consciousness exists as truly as its objects do, and that it consists of a set of experiences each of which exists (though not in isolation) and is related to its object without itself *being* a relation at all.

A constructive statement follows, setting forth the doctrine of critical realistic epistemological monism concerning the direct objects of sense-perception; and the author proceeds to show that there is nothing casual in such a monism, since there can be no ultimate dualism in the way of knowing, whatever the object may happen to be. With this aim in view he endeavours to establish a critical theory on lines that are not unfamiliar. The senses are nothing without interpretation, and interpretation itself is nothing except the extension and representation of a percept through ideas. Since he presupposes throughout his argument that *existent* reality is the only possible object of true thinking, that universals must be mere abstract representations, and that any theory which even suggests that there may be non-mental objects which are capable of being thought truly yet do not exist is so inherently absurd that the bare mention of it is a sufficient refutation, he has little difficulty in establishing his contention, or in giving an account of the origin of cognition in keeping with the facts of evolution.

These explanations form a connecting link between the first part of the book dealing with immediate perceptual acquaintance, and the second part dealing with mediate knowledge and the nature of

truth and of evidence. The argument in this second part consists principally of a critique of intellectualism on the one hand, and of pragmatism on the other with the inevitable constructive synthesis (or compromise) following. Students of Kant will be surprised to learn that the theory of the *Critique of Practical Reason* is an "absolute dualism of intellectualism and pragmatism," and will ask, not unreasonably, what meaning they can attach in that case to such explicit statements of Kant as that "it is still only one and the same reason which, whether in a theoretical or a practical point of view, judges according to *a priori* principles," or what is the connexion between an anti-intellectualistic pragmatism and the "objective reality of pure practical reason" untrammelled by any empirical limitations or conditions. But this book abounds with disputable statements of that kind, principally because there is no room for detailed scholarship in its five hundred pages. The discussion of pragmatism, however, is full and interesting, and the author's constructive theory of 'critical pragmatic logical monism' is the most ingenious part of his book. In judgment, he says, there is always a subject and a predicate. The subject is a piece of independent reality, part of which is explicitly known. The predicate is a representation which amplifies the explicit subject and, for practical purposes, may have the same function as a reality more fully perceived. This equivalence in function from the standpoint of action and the results of action is what truth means in actual practice, and thus the pragmatist's criterion expresses what truth *is*, while the 'ideal' theory of the intellectualist gives the correct account of the instruments of judgment (*i.e.* ideas) and therefore of truth. There is absolute truth when the predicate of a judgment is equivalent in function to any purpose that ought to be recognised, and we can discover by *intuition* what these relevant and obligatory purposes are. An ingenious argument in favour of this culmination is that it is the scientific outcome of pragmatist theory. To the pragmatist, verification is the test, and perhaps something more than the test, of truth, and this verification is in the way of equivalent working. We require, therefore, an ultimate verification in the case of the most general and fundamental truths, and this can only be supplied by intuition. Unfortunately the nature of this all-important intuition is (unintentionally, we may hope) left very obscure; we are warned, however, against believing it to be infallible, and are told darkly that "practice without intuition has often more truth than certainty; but intuition without practice has quite as frequently more certainty than truth".

The final chapter deals with the logic of proof, and seeks to avoid a dualism between deduction and induction. It also contains what is intended to be a trenchant criticism of 'logistic' (*i.e.* of mathematical logic). The value of this criticism may be estimated from the following passages on page 467. "And so we would claim to be justified in contradicting the assertion that, so far as we can say,

space is as likely as not either non-Euclidean or four dimensional. For such an assertion there has been found not a single good reason. . . . As a scientific hypothesis it grossly violates, as we have seen, the principle of parsimony. It runs counter to practical need, to common sense, and to immediate intuition. . . . And so also with regard to the notion of infinite collections. . . . Experience and 'rational intuition,' when we are sufficiently critical, disallow the notion. An infinite collection, if there could be such a thing, would be a collection such that adding to it would not increase it, and subtracting from it would not diminish it. But we know, by intuition capable of enduring the severest criticism, that there can be no such collection." Despite these remarks, however, the book concludes with an insistence on the absence of dogmatism that has characterised its argument, and with certain regrets that it 'may not have been, in a possible sense of the term, eclectic enough'.

It is necessary to give some account of the constructive statement of the theory of 'critical realistic epistemological monism' in chapter xiv., since the greater part of the argument leads up to it, and the rest of the argument is, in part at least, a justification of this central thesis.

The theory consists essentially of a defence of the distinction between primary and secondary qualities on the lines of an inverted Kantianism. Thus, if Kant's doctrine is taken to mean that sensory elements are given to us, and that the forms of space and time are *a priori* contributions of the mind, the inverse theory is that the secondary qualities are created by the mind, and the primary merely revealed to it. We learn, accordingly (p. 323), that "the secondary qualities are created, and thereby the primary qualities are revealed". Judging, apperceiving, imagining, etc., are creative activities of the mind, and without some of them there would not be perception. But the awareness of primary qualities is also involved in perception, and these the mind does not make but finds. The author claims that this is the only feasible solution of the tangled problems of perception. Unlike the realist he need not be troubled by the existence of hallucinations, dreams and errors, for he can trace these to their subjective sources (in connexion with a neural organism). He can do justice to the traditional arguments in favour of the *esse-percipi* doctrine of sense-data without deserting reality, like the idealist, or shielding his eyes from it, like the agnostic. He can agree with science and common sense, and if any trivial difficulty remains concerning the accuracy of our perception of space and time themselves, we can readily remove it by a little dose of pragmatism. We soon learn to correct errors of visual perspective, and should, for practical purposes be content with the approximate infallibility of touch. Any errors concerning remote objects seen still imply a 'location' which is accurate enough for practical purposes. One wonders what a mountaineer or an artilleryman would say to this.

Pragmatism often seeks strange company, but surely it is curious to find pragmatism in conjunction with the remark that "primary qualities are transcendently real; but some of them are sometimes empirically real, and this circumstance makes all the difference between helpless total ignorance of reality and knowledge capable of almost unlimited progress" (pp. 326-327). It is strange, again, that a critical, and therefore undogmatic, theory should assume without criticism or, indeed, inquiry, that there is a single realm of tri-dimensional Euclidean space, that we can 'locate' accurately within it, that in some unexplained way the creation of secondary qualities reveals this 'location,' and that the well-known arguments which prove that the perception of primary qualities are relative to the subject at least as certainly as the secondary can be entirely disregarded. And would it not be strange if this theory solved the difficulties connected with hallucinations and dreams? The question at issue in that case has nothing to do with the distinction between primary and secondary qualities since it concerns both kinds of qualities equally or not at all. Again if secondary qualities are created and primary qualities are not why should there be no introspective evidence of this radical difference? Finally we may ask whether creation through psychical activity is the same thing as the cognition of what is created. If it is, there is a dualism in knowledge since the primary qualities are not so created. If it is not, the problem of *knowledge* still awaits solution.

What a pity it is that metaphysical problems are frequently not quite so simple as they look.

JOHN LAIRD.

Le Scuole Ionica, Pythagorica ed Eleata (I Prearistotelici I.). By ALDO MIELI. Firenze: Libreria della Voce, 1916. Pp. xvi, 503. Price 12 lire.

THIS is the first volume of a projected work on the general history of science, and it deals with some of the predecessors of Aristotle. The part on the pre-Aristotelians will be composed of Chapters on the Ionian School, the Pythagorean School, the Eleatic School and Heraclitus, characteristics of the science of the two first schools (also Empedocles and Anaxagoras), Greek medicine and the writings of Hippocrates, the atomists, the development of mathematics before Euclid, the development of astronomy before Aristotle, the Sophists, and Plato and his position in the development of scientific thought. Of these ten Chapters the present volume contains the first three. To each of these three Chapters is appended a long bibliography and index, and it would perhaps have been an advantage if another index for the whole volume were added at the end.

Prof. Mieli is well known to readers of *Scientia* and *Isis* as one

of the leading members of the modern school of historians of science. As distinguished from the older historians of science, the new school does not treat of each science separately but of all sciences and sometimes even religions and arts at the same time. It is instructive to read, on p. 142 of the volume under review, the remarks of Prof. Mieli on Whewell's histories of sciences and the defects of treating independently the histories of different sciences. The man who did most to found the new school was the gifted Paul Tannery, and the ambitious work of organising and co-ordinating historical work on science in general was carried on with great enthusiasm and ability by M. George Sarton, who published his excellent review *Isis* near Ghent for rather more than a year until the atrocious devastation of Belgium took place. Then M. Sarton, like many other literary men of Belgium, was forced to leave his work and his country. Prof. Mieli was one of those who worked with M. Sarton to make *Isis* worthy of its founder's ideals; this volume is dedicated to M. Sarton, and there is an interesting tribute to him on pp. xiii-xiv. Besides the influence of Tannery and Sarton, that of Ernst Mach has been very important and is mentioned on p. viii.

Prof. Mieli's ambitions are not limited to Greek science; that is only one of the stages in a projected history of scientific thought to the end of the eighteenth century (p. xii). There seems to be a certain unanimity amongst scholars that at present anything but histories of very special departments of knowledge should stop with some period just before the nineteenth century began; and this is also Prof. Mieli's opinion (p. xi). It seems to the reviewer rather a pity to postpone the writing of a history simply because nobody knows what may be the future lot of a present speculation. To take an example from mathematics, a historian of the present would be quite alive to the fact that it would be a pity to ignore the work of the British mathematicians of the first half of the nineteenth century on the calculus of operations and functions, because of its importance in connexion with the modern subject of integral equations; and yet it was thought fit by Cayley, when he wrote his article 'Function' for the ninth edition of the *Encyclopædia Britannica*, almost to depreciate these researches. The fact that, fifty years hence, mankind will have forgotten much about the theories of the present day, must, it would seem, counterbalance the disadvantage that we cannot wholly know which, if any, of our theories scientific men of fifty years hence will think important. If writing history is postponed to the future, men of the future must have a very wrong impression of how and why we did things.

The first Chapter (pp. 3-207) is on the Ionian School, and deals with the Greeks of Asia Minor and their relations with Egypt, Thales and his meteorological and astronomical knowledge, the introduction of mathematics into Greece, the speculations of the Ionian philosophers on 'the primordial element,' the astronomical

and cosmogonic ideas of the Ionians and their geological, biogenetic, and anthropogenetic theories, Ionian geography, and the technical arts with the Ionians. There is a classified and critical bibliography (pp. 136-207) which contains some very valuable notes on books. A very pleasing feature is that the author states quite frankly when he has not read any particular book mentioned. The bibliography seems to be fairly complete, but less so as regards British works. The English translation of Gomperz's *Greek Thinkers* might have been mentioned on p. 146; the second edition (1908) of Burnet's *Early Greek Philosophy* and Burnet's work of 1914 on *Greek Philosophy from Thales to Plato* have not been seen by the author (pp. 147-148); the English translation of Ueberweg's *History of Philosophy* is not mentioned (p. 149). It is a pity that the author (p. 171) has not seen Hankel's *Geschichte*, as it seems to have been the first book in which the importance of Zeno's influence on mathematics was emphasised. We should have expected to see this fact mentioned somewhere between p. 483 and p. 489.

The second Chapter (pp. 211-278) is on the Pythagorean School and deals with Pythagorean arithmetic, geometry, acoustics, astronomy, other scientific conceptions of the Pythagoreans, and Archytas and the Delian problem. The Chapter is followed as before by a critical bibliography. Perhaps a somewhat fuller account of the cosmology of the Pythagoreans would have been desirable, principally because this cosmology throws some light on the question as to whether the Pythagoreans held a crude form of the atomic doctrine. It will be known to many of the readers of MIND that Prof. Mieli has sustained the thesis, in *Scientia* of 1913, that, after the time of Zeno, the Pythagorean doctrine was transferred from geometry, where it had proved to be inadequate, to the theory of matter. This thesis is not mentioned, by the way, in the present work; and it does not seem true that any Greek philosopher held that matter was a sum of points while space was not. A distinction between matter and space was not made by the earlier Greek philosophers, and consequently the question of Pythagorean atomism is relevant to the question of what may be called geometrical atomism with the Pythagoreans.

With regard to the bibliography, one point may be mentioned in particular: although Prof. Mieli speaks disparagingly of Hoefer's *Histoires* in *Scientia* of January, 1915 (cf. p. 186 of the present book), it might be mentioned that Allman in his *Greek Geometry from Thales to Euclid* (p. 2) has remarked that the work of Hoefer on the Pythagoreans was occasionally useful to him. Here it may be also noticed that Prof. Mieli seems wrong when (p. 174) he speaks of Allman's book as 'of a somewhat philosophical nature'; Allman's book contains good historical research, and Prof. Mieli might well have made use, for example, of Allman's useful remarks, on his pp. 30-31, on the meanings of the word 'gnomon,'

to supplement what is said on pp. 242-243 of the book under review.

The third Chapter (pp. 381-503) deals with the Eleatics and Heraclitus, and contains an account of the works of Xenophanes, Parmenides, Zeno, Melissus, and Heraclitus, and a critical bibliography. Although, in the note on p. 491, Prof. Mieli expressly disclaims any intention of giving a complete list of papers concerned with Zeno's arguments, it would have been relevant to refer to Gaye's very sound interpretation of Aristotle's version of Zeno's fourth argument on motion, and to Mr. Russell's illuminating discussion of Zeno's arguments in his *Principles of Mathematics* of 1903, and still more so in his 'Lowell Lectures' of 1914. It may be mentioned here that a very complete account of the fortunes of Zeno's arguments on motion down to modern times has been given by Prof. Florian Cajori in the *American Mathematical Monthly* for 1915.

Throughout the whole volume there are very useful quotations in the original Greek of the passages on which the historical work is founded. The interpretation is principally that of Paul Tannery, and, as we should expect, great use is made of Loria's *Scienze esatte nell' antica Grecia*. We should have liked to see the extremely valuable testimony of Plato, in his *Parmenides*, as to the relation of Zeno's thought to that of Parmenides; for this testimony explains so much that would otherwise be obscure, and is still somewhat obscured by the interpretations due to Tannery and Milhaud.

The central point of interest in a study of the views of the Pythagoreans and Eleatics is the apparent contradiction in assuming a continuum to be composed of points. This apparent contradiction has always exercised and is still exercising philosophers. Modern mathematicians and logicians have really attained to a consistent theory of a continuum made up of points; but this does not affect philosophers like M. Bergson. The chief points, then, in a history of the Pythagoreans and Eleatics when viewed from this standpoint would seem to be the following. The Pythagoreans held that geometrical points were 'units having position'; and it has been very reasonably held by Tannery and others that this shows that they considered geometrical figures to be composed of points just as a number is of units, and thus, though of course they did not *say* this, of a *finite* number of points. This theory was refuted both by the Pythagorean discovery of incommensurables, which the Pythagoreans seem to have regarded rather as a skeleton in the cupboard, and by the arguments of Zeno (cf. pp. 231, 240-241, 272, 440-444, 447-448). There is one point in accounts of Pythagorean doctrine which needs definite refutation if this theory is to hold good: it is the assertion of the neo-Pythagoreans or neo-Platonists that the Pythagoreans distinguished between the continuous and the discrete (cf. Allman, *op. cit.*, pp. 23, 48; Moritz

Cantor, *Vorlesungen über Geschichte der Mathematik*, vol. i., 3rd ed., Leipzig, 1907, p. 156). According to the above theory, it would seem that the Pythagoreans believed that what seems continuous is really discrete, and were rather puzzled and annoyed by the existence of irrationals—which appeared to others to be a refutation of their theory and to them to be an inexplicable mystery.

Another problem is presented by the question as to whether the Pythagoreans discovered an irrational by considering an isosceles right-angled triangle (pp. 267-272) or by considering the finding of means (pp. 253-256; cf. Allman, *op. cit.*, pp. 42-43). However, the well-known parallel passages in Euclid and Aristotle, in addition to other reasons, make it very probable that the discovery was made in the former way.

All serious inquirers into a scientific or philosophical theory are really concerned with its truth or falsity far more than with anything else. Such facts as that so-and-so thought such-and-such things at such-and-such a time, apart from any evidence for or against the truth of these things, cannot really be considered to be anything else than a merely frivolous piece of information. Yet the collection and statement of such pieces of information is regarded by many otherwise intelligent persons as the subject-matter of the history of a branch of thought. If this opinion were true, a history would be merely a collection of statements by authorities without authority. It is difficult for us to imagine that any proposition should ever have been believed for reasons which greatly differ in nature from those which induce us to believe statements at the present time. We are prone, and quite rightly so, to believe that a theory which is or was held by a person of ability who had read and thought about that theory is worthy of consideration. But this belief of ours, if it is not mistaken, must be capable of being substantiated in a way in which it is not necessary to mention names or dates or places. Names and dates and places have much the same function as definitions in mathematical logic: simply to shorten our means of expression.

Thus the history of a science or a philosophy is at the bottom an objective description of the subject-matter of that science together with its developments. The fact that this description is arranged in order of time of discovery has a double advantage. In the first place it presents to us the knowledge that has been attained at certain periods, and thus gives us a valuable lesson in research at the present time; for the ways in which seekers after truth have set about their business in the past is very much the same way that we ought to now. In the second place, and here is, it seems, the great reason why we need a *general* history of science—other problems appeared at the same time and often seemed to be relevant when further research showed them to be irrelevant to the main question, or *vice versa*. Such problems sometimes, accordingly, disappear in the first logical statement of a theory; but

these problems sometimes tend to reappear in the minds of other thinkers.

These advantages are, of course, of a psychological nature, but if we are interested in the truth we must to a certain extent be interested in the discovery of the truth, although naturally we must avoid confusing process and result. The historical order has also an advantage over the order adopted in most text-books in that it makes no attempt to begin with what is logically the most fundamental. We are all acquainted with the ridiculously unstable position between ease of learning and outward respect for logic in which most text-books find themselves.

The ideal of scientific history is the exhibition of the way in which a study of part of the psychological 'how,'—the path by which trains of thought have been conducted by suggestions from other methods and conceptions, but not the influence on it of all circumstances such as food and happiness—leads to a ready and thorough understanding of the logical 'how'—the exhibition of the logical principles which lead to a certain truth from fundamentals. The period with which the present volume is concerned is rich in discussions which are of the utmost value for us at present, and the careful study of the general history of science enables, in the fullest manner, all those problems to be studied together which afterwards showed themselves to be relevant or irrelevant in spite of appearances. To this end the volume under review has contributed worthily; upon it can be built by those who are interested in the future of our knowledge.

PHILIP E. B. JOURDAIN.

The Principles of Understanding. An Introduction to Logic from the Standpoint of Personal Idealism. By HENRY STURT, M.A. Cambridge University Press. Pp. xiv, 302.

IN a previous volume Mr. Sturt defined Personal Idealism as viewing human experience, "not from the visionary and impracticable standpoint of an absolute experience," but from the standpoint of human experience itself; and as emphasising the volitional side of human nature. The fundamental fact from which it set out was personality as real and concrete. The present volume studies thought or understanding from this standpoint. *A priori* laws are set aside as not existing, and understanding is regarded as not merely seeking truth, but as being subservient to "the formation of purposes and the satisfaction of desires" (p. 4). Logic studies understanding in all its concreteness; "its purpose is to explain the processes of our own minds and of persons whom we know" (2). It is defined elsewhere as "the theory of understanding" (1), or "the theoretical account of the actual processes of human understanding" (vii).

But it is clear that these definitions are not meant to be final, since they are not sufficient to discriminate between the study of understanding which constitutes Logic and that which constitutes a branch of Psychology; and the general treatment of the subject indicates that there *is* some distinction. I do not think it would be easy for one with Mr. Sturt's views to give a satisfactory definition, but I think it could be done; and if we are to have two sciences and not one, it is desirable that we should know in what their standpoints differ. Mr. Sturt tells us for instance that there is much good Logic in the pages of Stout's *Analytic Psychology;* does it, we ask, comprise just those portions which deal with thought, or are some of these portions psychological and not logical? To put the question otherwise, what is meant by "theoretical" in the definition of Logic?

The present volume leans rather to the side of Psychology. It is an *introduction* to Logic, "not in the sense that it works quickly over the main field of study, but in the sense that it considers with fulness some preliminary matters which seem to need special consideration at the present juncture of philosophy" (8), *viz.*, the nature of understanding as spiritual and not mechanical or sensationalistic, and again as intimately bound up with the passional or dynamic element of the soul. From this point of view the book can be regarded as a contribution to the psychology of thought. But its aim is not merely this, for it endeavours to give some useful information as to how the business of thinking may be more efficiently carried on. In this respect it has points of contact with Dewey's *How We Think* and with much of Graham Wallas's *Great Society*. Mr. Sturt's discussions range over an extremely wide field in a manner which we might be tempted to describe as perfunctory were it not so clear that he is determined not to lose hold of his central questions even for a moment. The result is that we are never in doubt as to his views; and this is clear gain. At the same time the impression is continually left, no doubt as a result of his mode of procedure, that the writer underestimates both the strength of his opponents and the difficulties of adjusting his own views to all the facts; and this is unfortunate. The book may be recommended as a courageous attempt to introduce clearness into a subject which is often beset with the confusing complexity which comes of an endeavour to do justice to all the aspects of a difficult question. It should act as a challenge to other thinkers to make their conceptions (or at least their expositions) more unitary.

The central doctrine of the book is contained in the chapter on Noesis. Noesis is the non-sensuous, active element in understanding. It is the apprehension of a whole, which is involved in every act of recognition of a whole as such, and which guides all our thinking in solving a problem. It can take place without any apprehension of the parts. It is essentially similar to Stout's

noetic synthesis, but differs from that conception in being applied to explain all those cases ordinarily ascribed to association. Noesis is in the second place freed from the connexion with psycho-physical dispositions which characterises Stout's account of implicit apprehension; and thus Mr. Sturt makes a very full use of the notion of sub-consciousness. Lastly, Mr. Sturt appears to make no distinction between the apprehension of the form of a whole and the implicit apprehension of a whole.

That feature of the object which is apprehended in noesis, Mr. Sturt calls its "form," or its "noetic pattern". Noesis is thus described as the "cognition of form" (35). But it is doubtful whether all the cases Mr. Sturt describes can genuinely be brought under a single conception. A study of his examples of forms or patterns will show the extreme width of application of these words.

Form may be opposed to matter as one aspect of a whole. It may *e.g.* be simply the spatial arrangement of the parts. The word "pattern" is specially appropriate here. In general, form is that in virtue of which we recognise a whole as this whole and not that (33-35). Another set of examples shows us form as the general vague idea of a whole, from which we start in thinking, and which conditions our thought of the appropriate parts; *e.g.*, the first suggestion of an invention, or an idea for a poem. Again, form may be some feature or aspect vaguely seized, as when we recognise a dimly seen object as a thing with a tail, or have an idea that a name we cannot remember begins with a B. Again it may be below consciousness altogether, as when after hearing a tune a person forgets all about it and suddenly remembers it some days later. In such cases, says Mr. Sturt, "I believe that the agent retained all along the noetic formula of the tune, without being able to articulate it" (72). "Noetic formula" here seems to do the duty of Stout's psycho-physical disposition.

These meanings are sufficiently varied: in all of them (except the first) we have, according to Mr. Sturt, something essentially inarticulate, *i.e.*, which cannot be realised sensuously, but which conditions and guides our thought. In all we have something "synoptic, schematic and coactive" (for the meaning of which terms we refer the reader to Mr. Sturt's book). But there are two cases which do not appear to come entirely under this description. (*a*) The pure form—form at its best—would be akin to a mathematical formula such as $S = \frac{a}{1 - r}$. For example, the tune-formula of a song flashes as a whole into a composer's mind, and he has simply to articulate it in detail (53). Again, "The noetic scheme of a mechanical invention would be its essential formula expressed in the purest way, like, *e.g.*, the algebraic formula $ax^2 + bx + c = 0$" (58). But if a noetic scheme is something which is "not articulate, not sensuously expressed,

and cannot be apprehended sensuously" (90), it would seem to be the very opposite of an algebraic formula, which is essentially articulate, essentially expressed, and in apprehending which we *have* apprehended all the cases (which are not parts, of which it is the schematic whole—wherein the analogy breaks down still further). (*b*) At the other end of the scale we have what Mr. Sturt calls a "primary pattern"; as in the case of the old woman who sees a complicated event, and in recalling it is unable to do more than repeat the incidents in the order and detail in which they occurred. Her "noetic pattern" appears to involve the detail (69-70). But "noetic pattern" involves a separation of form from matter of a kind which hardly seems to occur in this case. I would suggest that we have something closely akin to this in those cases which Mr. Sturt describes as showing pure form. The musician who has what can be compared with an algebraic formula has, I think, nothing less than the whole song completely articulate.

Something may be said as to Mr. Sturt's position regarding association. His principles are those of systematic association (where the form or system of the whole conditions the emergence of the parts—connexion of whole with part) and inter-systematic association (where a part within one whole conditions the passage to another whole of which it forms a part—connexion of part with whole). Both principles are noetic. Now in so far as inter-systematic association takes place without any modification of the second whole due to the nature of the previous whole, we have simply a case of what would ordinarily be described as association, and explained as the excitation of a total disposition. Again, there appear to be cases which would have to be described in Mr. Sturt's terminology as *intra*-systematic association, where a part within a whole determines the revival of another part. The mechanical explanation is sufficient for these cases.

We can go further. Let us suppose that the first psychologists had held Mr. Sturt's views—*i.e.*, suppose that they had regarded as unthinkable any mental process not conditioned by the apprehension of a whole, or pattern. Still the *idea* of another kind of process would soon be suggested. It would be found for instance that, within the same thought-process, certain quasi-mechanical factors (*e.g.*, repetition, contiguity within the train, recency of connexion) influenced the strength of the connexion between any two aspects or parts. Also, the weaker the thought interest, the stronger these factors became. The suggestion would then arise, of a consciousness for which these factors were the only ones; and although it would be unthinkable as an actually existing consciousness, yet it would be useful as a limiting conception. But a limiting conception at one end suggests that its pure opposite is equally a limiting conception. And thus a purely mechanical consciousness, working on association alone, and a purely spon-

taneous consciousness, working on thought-trains alone, would be seen to be limiting conceptions by the aid of which to understand the workings of all actual conscious process.

But while there appear to be grounds for holding that Mr. Sturt's conception of noesis is too wide to do justice to the psychological facts, it seems clear that it could be replaced by a more restricted view without vitiating the arguments of the rest of the book. In particular, the account of judgment and inference, as acts of noetic synthesis suffused with passion, would in no way suffer. This, then, would have to be discussed on its own merits. Mr. Sturt's treatment of these points is clearly preliminary, and would naturally fall within a more systematic and detailed "Logic". It is to be hoped that Mr. Sturt will give us this at a no distant date.

L. J. Russell.

VII.—NEW BOOKS.

Proceedings of the Aristotelian Society, 1914-15. Pp. 441. Williams & Norgate.

This is a very thick and interesting volume of Proceedings. The size is due to a Symposium on the *Import of Propositions*, in which Miss Jones and Messrs. Bosanquet and Schiller took part. A very wise innovation is that each of these philosophers write *two* articles; we can thus see how they meet each other's criticisms. There is also another Symposium on *Instinct and Emotion*, in which the parts are taken by Dr. McDougall, Mr. Shand, and Prof. Stout. It consists of a rather acrimonious discussion between the first two psychologists on points raised by Mr. Shand's recent work on *The Foundations of Character*. Prof. Stout plays the congenial part of a detached critic of both. No less than four articles are directly concerned with Mr. Russell's *Lowell Lectures*. These are Prof. Bosanquet's *Science and Philosophy; Phenomenalism* by the present reviewer; *Complexity and Synthesis* by Mrs. Adrian Stephen (Miss Costelloe); and *Mr. Russell's Theory of Judgment* by Prof. Stout.

The paper by Mrs. Stephen (surely far the best of Bergsonians) is very able and interesting. She says that *prima facie* there are two kinds of sense-data, complexes and syntheses; the former appear to consist of terms in relations, the latter do not. Bergson and Russell agree in recognising this distinction, but Russell tries to prove by Stumpf's argument that what appear as syntheses are really complexes. Mrs. Stephen then criticises Stumpf's argument. We have three sense-data (*e.g.* colours); *a* looks the same as *b*, *b* looks the same as *c*, but *a* looks different from *c*. Stumpf and Russell conclude that, since sameness is transitive, *a* cannot really be the same as *b* or *b* cannot really be the same as *c*. Mrs. Stephen replies that this argument only holds if we suppose that syntheses consist of *logical* terms and relations. Now this is just what Bergson denies. It seems to me that Mrs. Stephen confuses two different points. (i.) Are *a*, *b*, *c*, etc., and their sensible relations, terms and relations subject to the laws of logic? and (ii.) Has the relation of *looking alike* the same logical properties (*e.g.* transitivity) as that of *being alike*? She appears to think that if you answer (ii.) in the negative you must answer (i.) in the negative; but this does not follow at all. All that follows is that we cannot tell whether *b* does or does not differ from *a* and *c*, not that *a* and *c* and their sensible relations do not have logical properties. I would like to point out also that it is not true that to say that datum *a* differs from datum *b* though they look alike is *exactly* like saying that an elliptical sense-datum is really round because we believe that the corresponding physical object is round. The shape of a sense-datum is a *positive* characteristic of it; the 'looking alike' of *a* and *b* may be merely the *absence* of an observable difference between them. Mrs. Stephen then goes on to discuss the nature of analysis. She holds that when we analyse a synthesis we do not find parts that were there all along, but replace it by a different datum, *viz.* a complex. And the relation between the two is that the complex is a fragment of the synthesis. But this seems to me to give away her case that syn-

theses have no parts ; for if a synthesis has *no* parts how can a complex arise by dropping *some* of the parts of the synthesis ?

The Symposium about propositions is too long for me to be able to give a fair summary. It brings out very well the strong and weak points of three very different views of logic. Miss Jones's original paper is mainly a reiteration of her view that S is P asserts identity of denotation with diversity of intension. I will just make one comment. If "Smith is human" means 'The denotation of *Smith* is a part of the denotation of *human*, whilst their intensions differ,' it will follow that Smith is human is partly about the words *Smith* and *human*. If so, when we assert it we make an assertion which is partly about words. Now this seems to me false ; we make an assertion *in* words, but not in any sense *about* words when we assert that Smith is human.

Prof. Stout's paper contains two parts, a criticism of Russell's theory of judgment and a note on his theory of knowledge by acquaintance. Prof. Stout accepts the three conditions laid down by Russell as necessary for any theory of judgment, but denies that they are sufficient. He adds (*a*) that correspondence must be between actual fact and what is before the mind, not between actual fact and the judgment as a psychical complex ; (*b*) what is before the mind must only differ from actual fact in the single respect of not being actual fact ; (*c*) the correspondence must be asserted by the judging mind. I actually have before my mind the general characteristics of an actual fact, but these leave open certain alternative specifications. I am aware of *what* these are, but not aware *which* is fulfilled. If I now go on to drop all the alternatives but one from consideration and to act as if this alternative were fulfilled I believe that this alternative is fulfilled. If it be fulfilled in fact this belief is true ; otherwise it is false. Prof. Stout's view of acquaintance is that we can never be acquainted with anything as distinct from its characteristics ; that a *thing* with characteristics is just a peculiar kind of complex whose elements are the characteristics ; and that the characteristics of a particular are themselves particulars, the only sense in which they are universal being that they are also elements (together with the like characteristics of other things) in another kind of complex, *viz.* a class. Knowledge by description is as ultimate as knowledge by acquaintance ; Russell's attempts to explain the former in terms of the latter are circular because they involve the notion of a variable which itself involves descriptive knowledge.

Dr. Aveling's paper on *Some Theories of Knowledge* advocates a return to something like St. Thomas's view, as a *via media* between Pragmatism and Absolutism. The paper brings out the extraordinary strength and good sense of St. Thomas very well.

I must also mention a very acute paper by Prof. Lloyd-Morgan on *Berkeley's Doctrine of Esse*, which is unfortunately too long and too technically expressed for me to be able to give a fair summary. Mr. Cook criticises *The Æsthetic of Benedetto Croce* not more severely than it deserves. Mr. Tudor Jones writes on the *Philosophy of Values*, and Mr. Cole on *Conflicting Social Obligations*. He holds that the state is only one institution among many in a society and that the ultimate sovereignty does not reside in it but in the totality of organised institutions. Prof. Bosanquet writes a short note on Mr. Cole's paper.

The opening paper on *Science and Philosophy* is by Prof. Bosanquet. It is a criticism of the view of philosophy put forward by Mr. Russell in his *Lowell Lectures*. It is argued (*a*) that philosophy should not hesitate to investigate objects of desire (*e.g.* immortality) merely because they are desired. We can study what is desired without allowing our desires to bias our conclusions. I hardly imagine that Mr. Russell

would deny this; it seems to me that on his view philosophy would study both (i.) good and evil as general characteristics and (ii.) whether certain other characteristics are necessarily connected with goodness (*e.g.* pleasantness). All that it could omit as too particular is whether definite institutions in the actual world are good or bad. (*b*) On Russell's view philosophy would be merely 'the theory of theory'. This is a mistake; but Prof. Bosanquet corrects it later by introducing the alternative that philosophy would be the 'theory of the *objects* of theories'. But why not simply say that it is the theory of the most general characteristics of all possible objects? We then at least avoid the danger of confusing philosophy with theory of cognition, a danger which Prof. Bosanquet points out, but into which Mr. Russell seems the last person to be likely to fall. (*c*) The function of philosophy is to see the universe as a whole, and not to concentrate its attention either on particular existing parts of it or on their general relations. Philosophy is allowed no working hypotheses and has a stricter standard of verification than any special science. Curiously enough, Prof. Bosanquet also holds that philosophy is national and personal like art. I should have thought that this was hardly compatible with the high standard of verification demanded in philosophy; I should also have thought that what was strictly beautiful in a work of art was not national.

The only other paper is an interesting one by Mr. Arthur Robinson on the *Philosophy of Maine de Biran*, a French psychologist who in some ways anticipated Bergson.

C. D. Broad.

The Origins of Christianity. By Thomas Whitaker. New edition with prologue. Pp. xlii, 212. 1914. 3s. 6d. net.

The prologue prefixed to the third edition of his book contains an interesting account of the stages of Mr. Whitaker's later progress in scepticism about the books of the Bible. He began with accepting Van Manen's position about the Acts and the Pauline Epistles; then he was led by Mr. J. M. Robertson's writings to doubt the historicity of Jesus. His book, which was first published in 1904, consists mainly of a statement of Van Manen's conclusions about Romans and Corinthians, with a sketch of his own views of the genesis of Christianity.

In his new prologue he tells us how he has been led on the ground of the Old Testament history from general acceptance of the results of Higher Criticism which places the prophets before the Law, to the more sceptical position that the Law came before the Prophets. Mr. Whitaker says that this edition of his book is the definitive one; he has come to the end we suppose of his sceptical progress. But perhaps some further steps in the same direction are still open to him. He still believes that there was a Paul who, if he did not write any letters which we possess, yet made journeys in the service of the religion he professed; and that the journal of which there are fragments in Acts contains true information about him.

The book is issued for the Rationalist Press Association, and with others of a similar origin is of the same class with the writings of Drews, Kalthoff and others on the Continent. One who believes that the books of the New Testament are in the main historical and tell of men who really existed and things which really happened, however far away from us in thought as well as in time and space, can only notice a book like this by pointing out elements in the New Testament which strike him as real and historical, and asking how on the sceptical theory such things came to be thought or written. I shall state one or two such observations.

1. Mr. Whitaker does not believe the ethical teaching of Christ to be original to the Christian movement. "There is no vestige of evidence," he says, "for any early or earliest Christianity that was simply a moral rule of life." Now the "Sayings of Jesus" which scholars recognise as a common source of the first and third Gospels and which they are certain was a book or collection contemporary with the second Gospel and independent of it, this work represents just that for which our author says there is no evidence. The Sayings of Jesus, on which Matthew and Luke both drew largely, shows Christianity when it was little more than an ethical doctrine; when the death of Christ had not yet become of cardinal importance for believers, nor His resurrection, when Jesus appeared as a Prophet, as the last Prophet, full of the sense of His own authority and importance, and preaching moral reformation in every department of life. Mr. Whitaker when he prepares another edition of his book will have to take account of the Sayings of Jesus which both Matthew and Luke use largely, and tell us whether they do not give evidence of a simple early Christianity of a period before the dramatic formation of Christian doctrine had taken place, and taking us, along with Mark, to a period not very far removed from the life of Jesus.

It is when we try to work out Mr. Whitaker's theory of the formation of the Gospels, without any historical figure behind them, that we see how difficult it is. Supposing that Jesus really lived and taught, the narratives are difficult indeed, many a deduction has to be made from their statements, many an influence is seen to have contributed to their formation, Old Testament story, later church doctrine of the person of Jesus, the usages of the church at a somewhat later period; but a nucleus of fact remains, many things are found which produce an impression of reality. If He never lived at all—how did all these narratives come to be formed, why are such apparently small and trivial incidents narrated, the cure of Simon's mother-in-law, Jesus' going out of the house before day and the disciples running to fetch Him back again—and fifty others? A commentary on a Gospel is required to show how this can possibly have taken place, if the hero never existed.

It would especially be necessary to account for the parables if they are not from Jesus. Pieces of this sort are not so commonly met with in literature that the occurrence of thirty or forty of them in the Gospels can be treated as calling for no notice or explanation. It is difficult to find in other literature pieces which are really parables and which can be at all compared with those of the Gospels. These latter belong to the same period, and the same condition of society; they are all marked by the same gift of keen observation of man's character and motives and ways of acting, the same kind and tolerant spirit. And the genius which gave utterance to them appears in the Synoptic Gospels only, and neither before them nor after them. If Jesus really lived, they are readily explained. He was a great artist in words, He had the gift. If He never existed what explanation can be given of them? Will Mr. Whitaker tell us in his next edition?

Observations of the same nature have to be made as to the Pauline Epistles. If they are entirely fictitious, how does it come that the Corinthian Epistles, for example, have such a wealth of detail in them which is not directly religious nor in the interest of any doctrine? Paul's journey and changing plans of travel, for instance; what led the writer to invent all that and put it in? Or what is said of Paul's financial independence, how he values it, how his adversaries envy it, how he keeps it for Greece and acts otherwise for Macedonia. For what end was all this made up? Or the matter of the collection for the poor Saints; the beginning of the undertaking in 1 Corinthians, the back-

wardness of the Corinthians to take up the scheme, the readiness of the Macedonians; how Paul is coming for the money, and what persons are coming with him for it, and the qualifications of each of them? Why invent all this, and put it together not clearly and simply but with many a point omitted which is essential to full understanding? The scholar who can regard the Corinthian Epistles as entirely fictitious and made up, either has never studied them with care or is wanting in the sense for historical reality. This is true in a higher degree of the Corinthian than of the other Epistles, but with regard to the first six in order of time, as well as Colossians and Philemon, it must be said that historical reality stares one in the face from each of them when it is sufficiently studied.

Mr. Whitaker is full of learning and information about many periods of history and many problems of literature. And he gives his reader the bracing sensation that he is bent on truth and nothing else and will seek for it till he finds it. He will give credit for some degree of the same virtue to one who has reached other conclusions than his own.

Pragmatism and the Problem of the Idea. By the Rev. JOHN T. DRISCOLL, S.T.L. New York: Longmans, Green & Co., 1915. Pp. xxvii, 274.

So long as the Roman Catholic Church retains St. Thomas Aquinas as its official philosopher, it will from time to time be incumbent on its apologists to show that the fixed categories of Scholasticism are applicable, not only to the Greek speculations which it endeavoured to render subservient to the purposes of the Church, but also to all the novelties of thought which have occurred since, in such a way that the 'errors' of modern thought have all been corrected by anticipation. Hence the demand for books like Father Driscoll's, their general method and their polemical attitude. Hence also the difficulties which result from forcing (highly effervescent) new wine into old bottles. It can hardly be said that Father Driscoll has surmounted the difficulties of his task very successfully, of that his contribution to this sort of literature compares favourably, either in his exposition or in his criticism of Pragmatism, with Father Leslie Walker's *Theories of Knowledge* in the Stonyhurst Philosophical Series, which I had the pleasure of reviewing in No. 76. For though, like all Scholastics, he has been properly trained to base his case on references and quotations and to separate exposition from criticism, and does not set himself above these duties like so many modern controversialists, he has unfortunately no very clear idea of what the pragmatist movement is about and how it developed out of the problems of modern philosophy; and this detracts seriously from his classification and selection of topics. His knowledge of the literature also is restricted to a part of the literary output of his representative pragmatists, and so he often fails to perceive the connexion of the pragmatisms he examines with the other doctrines of their authors. His introductory chapter is slight and shallow, and contains such nonsense as that the influence of James and Bergson is materialistic and sensual, and that Pragmatism "professedly proclaims that might is superior to right, and that trickery and dishonesty are superior to uprightness and truth" (p. 15). Chapter ii., on 'Empirical Pragmatism,' deals, very inadequately, with James and Dewey. He derives their doctrines from the empirical psychology of Mill, Bain and Spencer, "considered as functioning or evolving" and regards it as a 'sensism,' an evolutionism and "a so-called Scientific Method". He does not grasp the importance of substituting a functional for a structural psychology,

tilts against Darwinism, declaring Mendel's Law to be "the only real advance in Biology within fifty years," but to be "verified of vegetable life only" (p. 22, but *cf.* p. 263), and robs Cambridge of Prof. Bateson in favour of Oxford. The pragmatic method is criticised thus: "we say that men of science explicitly contrast working-hypotheses with established truths and give provisional assent only to the former. It is *Scepticism* to hold that all scientific theories are purely working-hypotheses, and it is false to apply the working-hypothesis to mental life and call it a scientific method" (p. 23). Father Driscoll would hardly beg the question so confidently if he were more familiar with the experience which has driven so many scientists to the very notion of scientific truth which he dismisses so dogmatically. But apparently (p. 37) he thinks it possible to base science on "judgments whose truth is grasped without any process of inquiry," conceives the hypothesis as "a special kind of judgment whose meaning (*sic!*) is uncertain," and considers it 'scepticism' to question 'self-evident truths' and to start from doubts. Chapters iii. and iv. discuss somewhat more fully Royce's *World and the Individual* and *The Problem of Christianity*, as expositions of 'Absolute Pragmatism'. Their attitude may be gauged by the suggestion (p. 62) that "Professor Royce is evidently not familiar with the famous controversy as to the nature of universal ideas which played so prominent a part with the Schoolmen". As if every competent philosopher had not been keenly aware of the difficulties of the doctrine ever since the days of Plato! Royce's definition of 'idea' in terms of will is answered by the allegation "that intellect and will are different is an elemental fact of conscious experience"! My *Humanism* and *Studies in Humanism* are treated more fairly, in chapters v.-vii., though some of the references and quotation marks have gone wrong. I am indeed reproached with Idealism, Solipsism and Scepticism, but as Father Driscoll does not deal with my arguments on these topics I can hardly be expected to plead guilty. He does however argue against my contention that all thought is purposive, and declares it untrue, because I recognise the operation of selective attention on a more extensive psychical material (pp. 147-148). The objection, which is very obscurely put,[1] apparently assumes that what is not attended to is not 'in' the psychic process and that whatever can be conscious must be called 'thought'. But of course I could not admit either that what is not attended to *ipso facto* disappears from consciousness, or that 'thought' should be used so widely and loosely as to cover all awareness. As might be expected after this, Father Driscoll does not make much of a subtle book like Bergson's *Creative Evolution*, though about 100 pages are devoted to it. In his final chapter on Pragmatism and Scholastic Philosophy the author allows his dogmatism a free hand. He simply asserts that "the act of sense is totally different from the act of intellect" and has nothing in common with it. Both however "are in direct contact with things" (p. 271), and this guarantees their truth. Whence it would appear that the problems of error and of the application of 'ideas' to things and of the selection of the proper idea to a situation which is always susceptible of alternative classifications have not yet occurred to Father Driscoll. His theory moreover clearly commits him to the notion of a 'double truth,' secular and theological. As a philosopher he must hold *all* men to be infallible that are capable of self-evident intuitions, though as a theologian it is his duty to restrict infallibility to the Pope.

F. C. S. Schiller.

[1] I cannot understand it at all unless in the first paragraph on p. 148 *s.f.*, 'useless' is a mistake for 'useful'.

The Theory of Abstract Ethics. By THOMAS WHITTAKER. Cambridge: at the University Press, 1916. Pp. x, 126.

This admirable little book has a great deal of thinking and study behind it. Its thesis is the vindication of the ethical doctrine expounded by Prof. Juvalta in his recent work *Il Vecchio e il Nuovo Problema della Morale*, together with historical and other explanatory comments which deal principally with Kant and with the relations of ethics to metaphysics, politics, and religion. Abstract Ethics is neither an applied science nor equivalent to the Art of Life. It is an ethics of law or obligation, not of end or of the details of casuistry, and it is as general in its scope as formal logic. The springs of conduct may, indeed, be under grace, and consist in the love of ends and in the desire to ensue them. But ends are empirical and variable, and no ethical theory based on end can give adequate expression to the fundamental moral fact of autonomous obligation. Abstract Ethics must be under the law, and under a law which is not at all empirical but *a priori*; and the author not only accepts this fact as his ultimate moral datum, but tries to show its harmony with what we know otherwise concerning our minds and the world we live in. Moral obligation has for its sole object the two ultimate laws of freedom and justice. To ensure these is to ensure the condition of the attainment of any individual ends on the part of any moral subjects; and, consequently, every moral being ought to accept them as binding just because of their eternal and immutable rationality. The application of them may not be capable of rigorous precision; they are too general for that. But their paramount importance in moral matters is not, therefore, to be disputed.

This summary of the argument is too condensed to be faithful to its original, but the book itself is so concise that any summary would have precisely the same defect. And the comments I should like to make are, perhaps, too fundamental to be just. Since ends are realised in a subject and vary with his nature and capacities they may be called empirical in a certain sense, but it does not follow that the critical evaluation of them is empirical, else every truth of fact would be wholly empirical. Again the author's defence of Abstract Ethics seems itself to rest upon an ultimate judgment of worth. *Liberum esse hominem necesse est: vivere non est necesse*, like the similar motto of the free port of Hamburg, is a splendid maxim. But what, on this system, is the *rationale* of the right to liberty except the contention that only the freeman can pursue ends of value, and that the primary and universal moral duty is therefore to make the life of a freeman possible? The argument on pp. 95-96 is perhaps sufficient to refute the obvious rejoinder that part of the basis of this theory must be the empirical matter of fact that the life of a freeman makes ends attainable, but why should there be a universal duty of securing the *instrument* of the attainment of ends unless for the ultimate ethical reason that ends in conduct have intrinsic worth? Finally it should be noted that the author's theory does not really imply so exact an analogy between Abstract Ethics and formal logic as he appears to think. Logic certainly should not masquerade as an encyclopædia of the sciences, but a logician claims to be able to criticise, and to criticise finally, the validity of any proof presented to him. once the premisses are granted. But neither abstract nor concrete ethics can criticise conduct with the same finality or precision, even when the case is fully stated.

JOHN LAIRD.

An Introduction to Ethics. By G. A. Johnston, M.A. Macmillan & Co., 1915. Pp. x, 254.

This book is "designed primarily for students in Training Colleges". It is divided into two parts. Pt. I., 'The Groundwork of Character,' is psychological, and deals in an interesting and straightforward manner with the influence of heredity and environment, the part played by instinctive behaviour and the emotions in the development of purposive action and fixed interests. The relation of the emotions to sentiments and the importance of the latter in the growth of the moral self is worked out very clearly and in accordance with recent psychological theories. The social nature of the self is strongly emphasised as is required by the author's view of the good for man; *viz.*, "the good for man consists in the development of a strong character in the activities of a socially valuable position in the community" (p. 6). The concluding chapter of Pt. I. deals with Will and Conscience "which must not be regarded as separate faculties and powers. . . . 'Will' and 'Conscience' are simply names which are given to certain aspects of the one self which is present in all mental behaviour and all moral conduct" (p. 100).

Pt. II., 'The Realisation of Character in Vocation,' opens with chapters on the relation of character and conduct and the development of the moral judgment. The topics are closely related to those which immediately precede, and for this reason it might have been preferable to include them in Pt. I.

The significance of the moral judgment and the springs of moral conduct are discussed under the heading, 'The Motives and Sanctions of Conduct'. This leads up to an account of the place of duty and of pleasure in the moral life. In his preface the author writes: "The metaphysical foundation of Ethics has been kept strictly in the background. A metaphysical theory does underlie the general argument of these pages, but I have never obtruded it, because a metaphysic that could be stated in a book such as this would clarify nothing and might confuse much." Yet in the absence of some statement of metaphysical theory it seems doubtful whether a student can gain much from the three concluding chapters: 'Vocation,' 'Goodness and the Virtues,' 'The Institutions of the Moral Life'. The chapter on Vocation is disappointing. It is not unreasonable to expect it to give grounds for the definition of the good for man already quoted. From studying the chapter the student will be impressed with the paramount importance of 'Vocation' for the moral life, but he will not learn what precisely is meant thereby; nor will he be helped by the footnote of p. 199 which, while it repeats the declaration of the preface, tells him that it will be clear to any reader familiar with philosophical discussion that a Metaphysic of Ethics is implied. As it stands the chapter does not explain Vocation nor does it serve as a basis for, or verification of, the social significance of instinct claimed in Pt. I. and emphasised in the final chapter.

The book fulfils its purpose nevertheless, and meets a real need. It deserves to be adopted widely as a class text-book in Training Colleges. The clearness of style, skilful use of illustration, and the prominence given to the educational aspect of ethical topics will be appreciated by students. The value of the book is increased by the references for further reading given at the end of each chapter and by the carefully compiled index.

Beatrice Edgell.

The Study of Religions. By STANLEY A. COOK, M.A. London: Adam and Charles Black, 1914. Pp. 439.

This is a volume of general reflections on the Study of Religions by an able specialist, widely known by his works on Semitic beliefs and customs. He has felt moved to put out a plea for the dispassionate and unbiased pursuit of such inquiries; partly because of certain modern systems of research which are too mechanical and overbearing to promote real advance, partly because he finds that certain reformers of human life tend to ignore the point of view of those whom they desire to reform, and thus to encourage academic and specialist mental habits. In the Study of Religions, if anywhere, we want the "long view" and the "whole view"; religions must be analysed and estimated as constituent parts of the entire life and thought of individuals and their environment. Never was there more need of this: the present may well be no less significant, as an era of psychical transition, than the sixth century B.C. or the beginning of the Christian era. In particular, we must learn how thought grows and moves, changes and keeps continuity; only so can we distinguish the more transient elements of thinking from more fundamental processes and dispositions. In the end we may perhaps hope for a Universal Religion, or at least "something structural or skeletal, which would embrace the essential facts of man's psychical nature and the essential factors of development, and would give different levels an opportunity of progressing along their lines and of thus contributing to the welfare of all". Principles of this sort are applied, in the body of the book, to problems of large import, such as the Doctrine of Survivals in religion, the influence of environment, and the distinct yet allied impulses to move forward yet keep the treasures of past attainment.

The author owns frankly that the philosophic problems of which he treats lie outside his regular beat; and it is undeniable that the reader is not seldom baffled by a certain opaqueness alike of argument and expression, and by a tendency to use words like "psychical" and "psychological" with a strange freedom and looseness. *Nonum prematur in annum, membranis intus positis* is still a tolerably good maxim for the specialist who writes a book on a technical subject other than his own.

H. R. M.

Collected Essays of Rudolf Eucken. Edited and Translated by MEYRICK BOOTH. London: T. Fisher Unwin, 1914. Pp. 354.

The religious idealism of Prof. Eucken has been placed before the English-speaking public by a long series of translations of which the present is one of the more admirable examples. It can scarcely be said that this new collection of mixed essays will add much to our knowledge of his characteristically quasi-popular system of thought. Two or three of the now combined papers have appeared in philosophical reviews; for instance, one on philosophy and the religious movement of to-day, or again an instructive and rewarding study of Kant's metaphors and similes. The last essay, on the reflection of the age in its concepts, brings us back to one of Eucken's earliest and best books, *Die Grundbegriffe der Gegenwart*, and is indeed translated from the second edition of that work. Another, on philosophical parties, is of special interest to the readers of this review. The rest, on such topics as the inner movement of modern life, the importance of great thinkers, popular education, and the status of religion in Germany, belong rather to that indeterminate sphere of "middle articles" in which information and broad flowing generalisations happily mix and mingle. One lays down a book like this with the feeling that Eucken is rather unlike the German philosophers we have been accustomed to read and admire. He is a modern equivalent of the

itinerant preachers of the ancient world, and like them he addresses a wide and eager audience. But one cannot quite bring oneself to call much that he writes philosophy. For that we go, among the living German thinkers, to Windelband, Rickert, Messer, and so forth; from whom we expect, and from whom we actually receive, exact and fruitful thought, of a kind that will bear re-reading. If any one is on the outlook for a really important philosophic work to translate, may we name to him Rickert's *Die Grenzen der naturwissenschaftlichen Begriffsbildung?* It would fill a blank in our literature, and it has long won the respect of those in the writer's own country who know good philosophy from bad.

H. R. M.

Received also:—

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W. J. Chidley, *The Answer, or the World as Joy*, Sydney, Sydney D. Smith, 1915, pp. 205.

Augustus De Morgan, *A Budget of Paradoxes*, 2 vols., 2nd edition, London, Open Court Publishing Co., 149 Strand, 1915, pp. viii, 405 and 387.

A. Worsley, *A Synopsis of the Persian Systems of Philosophy*, published by Author, 1915, pp. ii, 35.

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Thomas Whittaker, *The Theory of Abstract Ethics*, Cambridge, University Press, 1916, pp. viii, 126.

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James Robertson Cameron, *The Renascence of Jesus*, London, Hodder & Stoughton, 1915, pp. xi, 315.

John Theodore Merz, *Religion and Science*, Edinburgh and London, Blackwood & Sons. 1915, pp. xi, 192.

George Trumbull Ladd, *What May I Hope?* London, Longmans, Green & Co., 1916, pp. xv, 310.

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R. P. Richardson and E. H. Landis, *Fundamental Conceptions of Modern Mathematics*, Chicago and London, Open Court Publishing Co., 1916, pp. xxi, 216.

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Stanley Leathes, *The People in Adventure*, London, Heinemann, pp. xvii, 303.

W. Trotter, *Instincts of the Herd in Peace and War*, London, Fisher Unwin, 1916, pp. 213.

R. Dodge and F. G. Benedict, *Psychological Effects of Alcohol*, Carnegie Institution of Washington, 1915, pp. 281.

C. F. D'Arcy, *God and Freedom in Human Experience*, London, Edward Arnold, 1915, pp. vi, 312.

VIII.—PHILOSOPHICAL PERIODICALS.

Psychological Review. Vol. xxii., No. 5. **F. Watson.** 'The Father of Modern Psychology.' [Account of Vives, emphasising his work on association and emotion, and his practical tendencies.] **M. W. Loring.** 'An Investigation of the Law of Eye-Movements.' [There is a tendency to increase of torsion as the eye passes from the primary to successively more oblique positions. Torsion of the left eye tends to be to the left, and of the right eye to the right, from the point of view of the experimenter.] **A. T. Poffenberger, Jun.,** and **G. G. Tallman.** 'Variability in Performance during Brief Periods of Work.' [Four tests on two subjects show a decline of speed in the second 30 seconds; there was practically no practice-effect.] **R. Pintner.** 'The Standardisation of Knox's Cube Test.' [Four cubes, laid out in line, are tapped in various orders with a fifth cube; test of some 850 normal children and 450 feeble-minded individuals; empirical standardisation.] **H. F. Adams.** 'The Adequacy of the Laboratory Test in Advertising.' [The laboratory tests by 'order of merit' are not a reliable guide to the business value of advertising.]—Vol. xxii., No. 6. **H. Woodrow.** 'Reactions to the Cessation of Stimuli and their Nervous Mechanism.' [Cessation-reactions to light and sound (two and three intensities respectively), under the instruction to react as quickly as possible, give sensibly the same times as normal reactions. The hypotheses of sensory latent time and synaptic resistance are inadequate; the cortical conditions of attention, and possibly determining tendencies, must be invoked.] **H. S. Langfeld.** 'Facilitation and Inhibition of Motor Impulses: a Study in Simultaneous and Alternating Finger Movements.' [The maximal simultaneous tapping-rate of the first and second fingers of the right hand is faster than that of the slower (and may be faster than that of the faster) finger alone; sympathetic movement and (perhaps) increased peripheral stimulation are responsible. The fingers tapping step-wise do about one and a half times as much as a single finger; tapping in complete alternation, about half as much. The latter loss is due to the necessary inhibition of the previous reflex; the former involves problems of co-ordination which require further study.] **W. S. Hunter.** 'Retinal Factors in Visual After-movement.' [Visual after-movement must be interpreted (so far as the retina is concerned) in terms of a streaming phenomenon which passes across the retina in a direction opposite to the image of the objective movement.] **J. A. Harris.** 'Experimental Data on Errors of Judgment in the Estimation of the Number of Objects in Moderately Large Samples, with Special Reference to Personal Equation.' [Groups of 25, 50, 100 and 200 beans were estimated by three observers in twenty-eight sets of experiments, distributed over two years, and comprising a total of 15,200 estimates. The results are presented statistically. There is a slight but significant personal equation (tendency to lay out too large samples), approximately the same in the long run for all observers; there are distinct differences in steadiness of judgment.] **J. Peterson.** 'Origin of Higher Orders of

Combination Tones.' [There is no case in proof of the derivation of combinational tones from upper partials.] **W. Brown.** 'From the University of California Psychological Laboratory. XXIII. Practice in Grading and Identifying Shades of Grey.' [Practice does not increase accuracy of grading; the matching from memory of four greys shows a substantial improvement in the course of five hours' work.]

American Journal of Psychology. Vol. xxvi., No. 3. **E. L. Woods.** 'An Experimental Analysis of the Process of Recognising.' [Experiments with visual, auditory, tactual and olfactory stimuli. Imagery grows less important as complete familiarisation proceeds; feeling and self-consciousness appear irregularly and are fortuitous. The essential feature of recognition is "an ongoing consciousness of activities, of pauses, of adjustments and shifts of attention".] **A. E. Tanner.** 'Certain Social Aspects of Invention.' [Emphasises, with special reference to Watt, the lack of correspondence between the social value of an invention and the inventor's ability; the likeness of inventors' motives; and the differences in their training and methods.] **S. Kanda.** 'Geotropism in Animals.' [Discusses, in a popular way, the part played by gravity as stimulus throughout the world of life.] **E. G. Martin, B. D. Paul and E. S. Welles.** 'A Comparison of Reflex Thresholds with Sensory Thresholds: The Relation of this Comparison to the Problem of Attention.' [The reflex thresholds are the less variable. The two thresholds, however, tend to rise or fall together. Attention thus seems to be a function of the state of the higher brain centres, and the sensory threshold to be an indicator of that state.] **G. S. Hall.** 'The Freudian Methods applied to Anger.' [Hunger, fear and anger are as primary and independent as sex; and the Freudian mechanisms apply as well to anger as to sex.] **E. B. Titchener** and **H. P. Weld.** 'Minor Studies from the Psychological Laboratory of Cornell University. **G. J. Rich.** 'xxiv. On the Variation with Temperature of the Pitch of Whistles and Variators.' [Gives formulæ for calibrating.] **J. S. Smith.** 'xxv. Visual Quality as a Determinant of Clearness.' [Hue, tint and chroma may all alike be effective to determine attention; their relative importance depends partly upon objective conditions, partly upon predisposition.] **J. D. Modell** and **G. J. Rich.** 'xxvi. A Preliminary Study of Vowel Qualities.' [Vocality appears with variator and whistle tones; the octave-relation can be made out for *u-o*, *o-a* and *e-i*, but hardly for *a-e*.] **C. A. Ruckmich.** 'A Bibliography of Rhythm.' [First supplementary list.] Book Reviews. Book Notes. Necrology. [S. Witasek and E. Meumann.]—Vol. xxvi., No. 4. **K. M. Dallenbach.** 'The History and Derivation of the word "Function" as a Systematic Term in Psychology.' [Shows that the term comes into English psychological use by way of phrenology.] **E. G. Boring.** 'The Thermal Sensitivity of the Stomach.' [Sensations of warmth are produced stomachically by stimuli of about 40° C., of cold by stimuli of about 30° C. These sensations are set up either in the stomach itself, or in tissues nearer to the stomach than the abdominal wall and the œsophagus.] **M. W. Calkins.** 'The Self in Scientific Psychology.' [Reply to Curtis. After general remarks on method, the writer adduces evidence from Katzaroff, Michotte and Prüm, and Ach, to the disclosure of the self in introspection. This disclosure would be universal, were it not for the ubiquity of the self and for certain forms of bias in method.] **G. C. Myers.** 'Grasping, Reaching and Handling.' [Report of a boy's motor activities during the first year of life.] **G. A. Feingold.** 'The Influence of Suggestion on Imagination.' [Experiments with ink-blots. Suggestion reduces fertility of imagination, and

the more as it is more definitely particularised.] **G. S. Hall.** 'Thanatophobia and Immortality.' [Opens with a parallel between the psychologies of love and death (primitive fear of corpse ; tendency to decorate ; transfer from the dead person to accessories ; transfer from body to soul as from mate to child, etc.). Finds the genesis of ghosts in man's experiences of air. Ghosts are feared as suggesting the corpse, as evasive of sense, as unrestrained powers, as enforcers of justice. Immortality is nominal (wish to be remembered), influential (wish to affect survivors), plasmal (wish for posterity), or orthodox (wish for compensation in a future life). These four immortalities are variously interrelated, and their basal desires are complicated by motives from other sources : from scientific spiritualism, from Platonic idealism, from the entification of soul, and (in an inverse sense) from scientific evolutionism.] Book Reviews. Book Notes.

Journal of Philosophy, Psychology and Scientific Methods. xii., 22. The most important thing in this number is a two-page letter of Bergson's to Prof. H. M. Kallen about his book on *William James and Henri Bergson*, in which he explains that his '*durée rêelle*' coincides with James's 'stream of consciousness,' and that though they had different origins there is no opposition between them. **R. S. Lillie.** 'What is Purposive and Intelligent Behaviour from the Physiological Point of View?' [To show that such behaviour is "characteristic of material systems with the peculiar constitution of living organisms". The criterion of intelligence is "recognising a situation as belonging to a definite *kind*".] **E. C. Parsons.** 'Circumventing Darwinism.' [No assurance of progress is to be got from Darwinism, but "some day we shall be content to be assured merely of the disastrous effects of inflexibility, of failing to meet whatever change takes place," and then "we shall stop clamouring for the assurance of progress as we have stopped clamouring for the promise of heaven".] xii., 23. **L. H. Miller.** 'The Religious Implicates of Bergson's Philosophy regarding Intuition, and the Primacy of Spirit.' [Quotes a statement made orally by Bergson that "he thought intuition should always be tested by verification, regarding it as a valuable guide-board, but one that, like other guide-boards, might prove wrong". This is very important, because it plainly subjects the deliverances of 'intuition' to the pragmatic test. For the rest the writer's aim is to show that "Bergsonism is not only compatible with Christianity, but even favourable to it".] **A. A. Goldenweiser.** 'Spirit, Mana, and the Religious Thrill.' [Animism is not religion until 'the religious thrill supervenes'. This thrill is conceived as due to *mana*, impersonal magic power which underlies both magic and religion. The magical act, though initially only an expression in behaviour of certain desires and not as such religious, becomes associated with the religious thrill.] xii., 24. **G. Santayana.** 'German Philosophy and Politics.' [A review of Dewey's book with this title, which endorses its general attitude and adds a number of interesting suggestions. Thus it was from Spinoza that Hegel caught his scorn of the finite, but it was no longer with him "impartial, courteous and Oriental" but became "acrid, arrogant, eager, hounded by the lust of life, and swollen with the claim to victory". It was "not pure scorn but mixed with annoyance". It is also pointed out that "'real' for Hegel, as for Plato, was a eulogistic term. The unreal existed also. The real had to swallow the unreal and digest it, so that this reality, this reason, was always hungry and sometimes dyspeptic." In opposition to absolutism Prof. Santayana thinks we should "practise courtesy

in the universe, exercising our will without vehemence or forced assurance, judging with serenity, and in everything discarding the word absolute as the most false and most odious of words".] **G. H. Sabine.** 'A New Monadology.' [A review of Varisco's *Know Thyself*, which he holds is an illogical attempt to give up the metaphysical without also discarding the epistemology of absolute idealism.] **C. E. Ferree** and **G. Rand.** 'A Résumé of Experiments on the Problem of Lighting in Its Relation to the Eye.' [It is found, *e.g.*, that bad light affects the muscles not the retina of the eye, that strong contrasts are hurtful and that lampshades are better than eyeshades.] xii., 25. **M. M. Lowenthal.** 'Comparative Study of Spinoza and Neo-Realism as indicated in Holt's *Concept of Consciousness*,' I. [Does not, so far, bring out any considerable resemblance.] **F. C. S. Schiller.** 'Are all Judgments "Practical"?' [Accepts Dewey's recognition of judgments with a distinctive 'practical' form referring to an is-to-be or something to-be-done (*cf.* xii., 20), and inquires further whether such reference may not be traced in all judgments in fact, though not in words. It is urged that every judgment which really occurs in a train of thought must be conceived logically as a *selection*, because there are conceivable alternatives to it, even when they were not psychologically thought of at the time. Hence it logically implies a selecting subject and his act of selection, and to abstract from this is a fiction which requires justification. Moreover, as the motive of the selection must always have been the supposed better value of the judgment preferred, a valuation is presupposed in judgment as such, and valuation is a practical attitude. All this holds as much of so-called 'theoretic' judgments as of those avowedly 'practical,' and the traditional doctrine rests merely on the substitution of the proposition for the judgment.] **A. T. Poffenberger.** 'Report on a Meeting of the New York Branch of the American Psychological Association.' xii., 26. **M. M. Lowenthal.** 'Comparative Study of Spinoza and Neo-Realism as indicated in Holt's *Concept of Consciousness*,' II. [Concludes that "if the humanism of Spinoza and precision of Holt could be synthesised into a common philosophy, the structure would in a notable degree be consistent, inclusive and æsthetically admirable".] **E. C. Parsons.** 'A Communication in Regard to "the Discovery of Time".' [*Cf.* Shotwell's papers in xii., 8, 10, 12. Suggests that "adaptability rather than foreknowledge is the criterion of culture" and that primitive hunters need a calendar—of the habits of animals—as much as farmers.] xiii., 1. **H. C. Warren.** 'A Study of Purpose,' I. [Scientifically there are three problems: (1) the psychological analysis of purpose, (2) its biological history and meaning, and (3) its *rôle* in the universe. In this paper purpose is psychologically 'analysed'—into five 'fundamental factors': (1) the idea of some future situation or 'forethought,' (2) the 'assent,' (3) the feeling of 'potency,' (4) consciousness of self, (5) a feeling of 'fitness' or 'unfitness'. All are conceived intellectualistically, the 'sense of choice, volition or fiat' being explained away as "nothing more than assent reinforced by the feeling of personal dynamic efficiency," and it is declared that "no other mental data enter into the experience" of a purposive act.] xiii., 2. **H. C. Warren.** 'A Study of Purpose,' II. [The biological analysis of purposive behaviour need recognise only two of the five psychological factors, *viz.*, the 'anticipation' (= 'forethought'), and the 'fitness' of acts for the 'end' of prolonging life. But "the inversion of temporal order which marks purposive activity and growth" is to be explained mechanistically. "The assumption of an entelechy is both gratuitous and contrary to the general evidence."] Contains also a Report of a Committee on Standards for Graphic Presentation.

Revue de Métaphysique et de Morale. September, 1914 (Publié en Juin, 1915). **E. Boutroux.** 'Allocution au congrès de philosophie mathématique.' [M. Boutroux addressed the Congress in place of the late M. Poincaré. Philosophers have recently had to consider mathematics carefully, (*a*) because the traditional logic was insufficient to deal with mathematical reasoning; and (*b*) because the traditional epistemological alternatives—Innate Ideas, Critical Idealism, and Empiricism—are insufficient to account for the existence and success of mathematics. And mathematicians are no longer satisfied to take such notions as negative numbers, infinity, measurement, etc., on trust, but ask what they really represent. The relations of science and philosophy are not merely external; all sciences are parts of philosophy. And the co-operation of scientists and philosophers will lead to mutual understanding and goodwill.] **L. Cahen.** 'Un Fragment inédit de Condorcet.' [Condorcet left a number of fragmentary elaborations of points in his *Tableau des Progrès de l'Esprit Humain*. In the ones here published he discusses the meanings of instinct, nature, and freedom in individuals and peoples.] **C. Bouglé.** 'Remarques sur le Polytélisme.' [Polytelism is the fact that the same means may subserve several different ends. In consequence of this fact men of very different ideals can collaborate in pursuing some object (*e.g.*, the spread of education), though of course if the differences become too explicit and pronounced there will be schisms. Polytelism makes for the solidarity of a society whose members are at different stages of development, as is seen in the support accorded to the Church by pious peasants and conservative free-thinkers. Again people with different social ideals can support their country as the means to the realisation of *any* of them; and those with different theories of morals can agree on the lay teaching of what they admire in common.] **D. Roustan.** 'La Science comme Instrument vital.' [Biological adaption in animals is a change of body to fit the surroundings; in men a change of surroundings to suit the body. Science is clearly a most important instrument in effecting such changes. This does not prove that it should confine itself to giving practical receipts; Greek applied science broke down when the Greek mind attended too closely to practical ends. Nor does it imply that science consists of convenient fictions. Poincaré only uses 'convenient' for true, when a proposition is very probable but not demonstrable *a priori*. Nietzsche, who held to the notion of absolute truth, failed in his attempt to show that error alone is biologically useful. He failed to see that what has been indispensable may be succeeded by what is still more useful, because truer; and he erred as to the meaning of the Law of Identity. Pragmatism, which rejects the notion of absolute truth, started with theological motives and only used biological considerations as a subsequent support. It is right in recognising the importance of trial and error in science, but fails to give a satisfactory account of how a trial is successful or an hypothesis is verified. To explain this we must assume a reality independent of our wills.] **A. Lalande.** 'L'Oeuvre de Louis Couturat.' [An excellent account of the work and main interests of this truly great man who resembled in so many respects Leibniz, the philosopher on whose system he shed so much light. A bibliography is appended.] **G. Belot.** 'La Guerre et la Démocratie.' [Democracies from their nature are not well fitted to prepare for or to wage war. But this is on the whole to their credit. And no state has yet had a democratic diplomacy. This renders it doubtful how far a democracy ought to or will keep promises made without its knowledge to other countries by its ministers. The fact that social legislation is on the whole less advanced among the Entente Powers than among the Central Powers does not prove that the former are not

fighting for democracy which is a general ideal rather than any special set of institutions. The ideal is that of Law and Right as against Force; and it remains valid even if Force wins. The democratic powers must aim at a federation of equal sovereign states, not at the hegemony of one over all.] New Books, Periodicals, etc.

Archiv f. d. gesamte Psychologie. Bd. xxxiv., Heft 3 und 4. **W. Conrad.** 'Einstellung und Arbeitswechsel als pädagogische und allgemein-psychologische Probleme.' [Seeks to establish and to quantify, by experimental means, the difference between concentration and readiness, the type of the *savant* and the type of the officer. The study of connected and of variously disconnected texts is interrupted by problems in addition. It turns out, unexpectedly, that the addition-times are longer after study of the disconnected. This does not mean, however, that concentration is greater for disconnected work; analysis of the quantitative results and the observers' reports indicate various sources of disturbance; though the author is led to look more favourably than at the outset upon change of work in the school. In conclusion, he sets up the psychomechanical concept of adjustment or attitude (*Einstellung*) as covering the effects of attention, association, etc., and outlines, somewhat vaguely, a physiological theory. The paper (nearly 200 pages) is both detailed and discursive.] **R. Peter.** 'Untersuchungen über die Beziehungen zwischen primären und sekundären Faktoren der Tiefenwahrnehmung.' [If two objects, at different distances from the eye, subtend different visual angles in monocular vision, and if all secondary criteria are ruled out, then the object which subtends the greater visual angle appears the nearer; only at very close range does accommodation gain the upper hand. Changes of accommodation may themselves, under certain circumstances, play the part of an 'associative' factor.] **W. Wirth.** 'Waldemar Conrad.' [Necrology.]

"Scientia" (Rivista di Scienza). Vol. xviii. Part 1. June and July, 1915. **E. Rignano.** 'I fattori della guerra ed il problema della pace.' [A very thoughtful summary of the inquiry upon the war instituted by *Scientia*. This long article includes, besides the examination of the principal factors which have caused the war, a consideration of the question under what conditions and by what means the present war can preserve us from other wars—for a long time at least. 'Though we cannot say that this war will be the last, yet we can hope that war, in a more or less distant future, will disappear from the face of the earth, just as cannibalism, human sacrifices, massacres of whole populations, the condemnation of a whole people to slavery, and other such manifestations of the primitive social life, have once for all been abolished in the case of civilised nations.'] Book Reviews. Review of Reviews. French translations of the English and Italian articles. Vol. xviii. Part 2. August, 1915.—**G. Bohn.** 'Idées nouvelles sur l'adaptation et l'évolution. IIème Partie: Conception physico-chimique de l'évolution.' [In recent times, chemistry has revolutionised biology. We must see if the theory of evolution remains compatible with the laws of chemical equilibrium which hold for the activity of living beings. Each system of evolution (Lamarck, Darwin, De Vries, etc.) contains a part of the truth and many errors. We must take up again the study of the facts of evolution from the point of view of chemistry. Both Lamarck and Darwin are finalists.] **E. Carnevale.** 'Democrazia e giustizia penale. Parte IIa: Democrazia, garanzie processuali, e metodi della lotta giudiziaria.' [The principles which are taken as guides in the present article are the same as in the author's previous article. The remarks made have in view the

future, to which scientific thought must also pay regard, and the formation of a theoretical and practical spirit which tries to better the institutions now in vogue.] **W. J. Ashley.** 'The Economic Conversion of England.' [In the time of a serious war, the control of the State over the economic activity of its citizens is widened and deepened. 'Of the force of these considerations England is to-day a conspicuous example. The State, in some cases instantly, in others after long deliberation, has enlarged its authority, has assumed duties and liabilities, has undertaken tasks, has restricted individual liberty, in quite new ways and on quite an enormous scale; and hardly a voice is heard in protest.' The author gives a general survey of the economic measures of the English government since August 4th, 1914. 'The measures to be considered fall roughly into seven classes. England is dependent to a greater extent than any other country in the world upon external trade. Hence the vital necessity of (1) the machinery of credit and (2) the physical mechanism by which that trade is transacted. The action of the government was successful in restoring both these pre-requisites of trade; but there could not but be some dislocation at first, and particular industries were bound to suffer by the closing of certain foreign markets and by the temporary changes in the spending habits of the people. Hence we have (3) a large group of measures of various sorts concerned with the general economic well-being of the people. 'Next, and of growing importance, have been the measures arising out of military necessities; and these may be divided into (4) measures concerned with the transport of the army, (5) measures concerned with the production of war material, and (6) measures designed to hamper the enemy in his acquisition of necessary commodities. And finally, the effect of the war has been to link more closely together the several parts of the empire, and there has been (7) an important series of most significant measures in the self-governing Dominions and in the great dependency, India.'] **Ch. Guignebert.** 'L'Église romaine dans le conflit européen.' [The logical result of the European war will be the beginning of a new era in universal life, and also the great revision of rights will have a decisive effect on the Roman Catholic Church. In an essay published in *Scientia* in 1911, the author predicted that Catholicism had come near to the death of immobility in a dogmatic formula. At the present time the Catholic Church is the Pope, and Benedict XV. has had the difficult task of pleasing everybody. He has consistently tried to be neutral: his view is that one ought to pray to God for peace without giving any hints to the Lord (*sans indiquer au Seigneur*) of the means to be used for this end. However, this attitude is both an error and an abdication. The Pope has neither satisfied the Allies nor their enemies. Some symptoms lead us to believe that the Vatican is evolving: the Pope is said to have been moved at Belgian atrocities, at the use of asphyxiating gases, and at the *Lusitania* affair; and he is said to have asked the Kaiser to stop using gases. 'These are very good signs, and though it is said to be never too late to mend, it would be rather too late and too much of a good thing only to condemn such things after the victory of the Allies.' In a note added after the above article was written, the author refers to the notorious "interview Latapie," which does not, however, so says the author, convey any new information about the Pope's attitude, but only confirms the conclusions arrived at in the above article.] Critical Note. **F. Enriques.** 'Réflexions sur l'art d'écrire un traité à propos d'un traité de mathématiques.' [Concerned with Enriques's forthcoming *Lezioni sulla teoria geometrica delle equazioni e delle funzioni algebriche.*] Book Reviews. Review of Reviews. French translations of the Italian and English articles.

IX.—NOTES.

NOTE ON CONNOTATION AND DENOTATION.

Logicians appear to me to be very confused as to what they mean by Connotation and Denotation. We are told that proper names have denotation but no connotation. Now logicians have wrangled a good deal about the second part of this statement, but no one seems to question the first part. Let us say then that the relation that the names *Mr. Asquith* and *Winston Churchill* have to the men Asquith and Churchill is that the names denote the terms.

We are further told by Mill that adjectives like *white* denote all white things, *e.g.* snow, writing-paper, etc., and that they connote the quality whiteness. This quality, he says, is denoted by the corresponding abstract noun, *viz. whiteness*. Now Mill fails to notice that *white* cannot denote snow or writing-paper in the same sense in which *Mr. Asquith* denotes the man Asquith or *whiteness* denotes the quality whiteness. To say that snow is white means that it has the quality of whiteness. But to say: This man is Asquith does not mean that he has the quality of 'Asquithness,' but merely that he has the quality of being called *Asquith*. In one sense then *N* denotes N means that *N* is the proper name of N and not a quality of it; in Mill's other sense it means that N is something that has the quality denoted by the abstract noun that corresponds to *N*. It is utterly misleading to use the same name—denotation—for these wholly different relations. Keeping to our original meaning of denotation we must clearly say that both *white* and *whiteness* denote the quality of being white.

We shall then need a special name for the relation between *white* or *whiteness* and particular white things. Let us call this relation *innotation*. Then the word *white* innotes any object which has the quality which it denotes. And the innotation of *white* is all white objects.

Next we come to connotation. According to Mill *white* connotes the quality which *whiteness* denotes. But we have now seen that white denotes this quality; so at present we have no need for the word *connotation* at all. Is it needed anywhere? We have not yet considered the case of common nouns. These are supposed to have both connotation and denotation. *Man* is supposed to denote Smith, Brown, etc., and to connote humanity. We clearly cannot allow that *man* denotes Smith, etc. We can, if we like, say that, in our sense of denoting, common nouns —or, at any rate, their plurals—denote classes. But they denote them as wholes; they do not denote the separate members of the class. *Man* or *men* is not the proper name of Smith, though it is not unreasonable to call it the proper name of the class to which Smith and all other men belong. We can now accept Mill's meaning of connotation so long as we notice that it applies solely to common names. The connotation of *man* is the qualities which must be present in any member of the class which *man* denotes. But adjectives will *have* no connotation; they denote the

*con*notations of common nouns. Thus *human* or *humanity* has no connotation, but it *de*notes what *man con*notes. Another confusion is often made here. It is often thought that if a quality be analysable the simple constituents are the connotation of the name of the quality. Thus it would be quite usual to call rationality and animality the connotation of *human*. But the question whether a quality be simple or complex has nothing to do with the connotation of its name. In no case can we reasonably say that the name of a quality has a connotation.

We may sum up as follows: (1) All categorematic words have denotation. (2) Adjectives and the corresponding abstract nouns have the same denotation, *viz.* the quality of which they are the proper names. (3) The relation between an adjective and a substance which has the quality that the adjective denotes may be called *innotation*. Whatever we choose to call it, it is not denotation. (4) Adjectives and abstract nouns have no connotation whether the qualities which they denote be simple or complex. (5) Common nouns denote classes taken as wholes and not the members of these classes. They connote the qualities which all members of the class must have to be members of it. (6) In general we may say that an adjective *in*notes the members of the class which is *de*noted by the plural of the common noun whose *con*notation is the quality *de*noted by the adjective.

C. D. Broad.

A meeting of the Mind Association will be held in the President's lodgings at Corpus Christi College, Oxford, on Monday, 15th May, at 4.30 P.M.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—LAWS OF THOUGHT.

By J. S. Mackenzie.

1. *Meaning of Laws of Thought.*—That, in some sense, thought is subject to certain fundamental conditions is obvious. In particular, every one must recognise that, if our thinking is not consistent with itself, there must be something fundamentally wrong with it. Hence attempts have been made to formulate the fundamental laws that are necessarily involved in all thought. The laws that are most commonly stated are those of Identity, Contradiction, Excluded Middle, and Sufficient Reason. That in some sense these laws do condition our thinking can hardly be denied; but in what sense we are conditioned by them, is by no means so apparent. In order to see what the exact sense is, it may be well to notice first certain interpretations of them that appear to be definitely incorrect.

(*a*) They are not to be interpreted psychologically, *i.e.*, they are not to be regarded as laws of the subjective processes of our thought, in the sense in which the principle of association may be said to be such a law, or in the sense in which the use of images or of some form of language may be said to be a general condition of thinking. Psychological conditions such as these influence our thinking in the sense that it is difficult, or even impossible, to carry on any process of thought without observing them. This can hardly be said to be true of the fundamental laws of thought. It is quite easy to think inconsistently. The difficulty is all in the opposite direction. Not only does it seem clear that untrained minds are apt to fall into contradictions. Writers of high repute, such as Emerson or Carlyle or Nietzsche, may almost

be said to glory in their inconsistency; and even systematic writers on logic, such as J. S. Mill, seem pretty obviously to be guilty of self-contradiction or inconclusiveness on several occasions. It may be said, no doubt, that this is due to want of thought; but this appears to be true only in the sense that the thought has not been sufficiently clear and persistent. In demanding that thought should be clear and persistent, we seem to be asking for more than that it should simply be thought. Moreover, there are some difficult problems, such as motion, time, freedom, in which it seems to be true that the more strenuously they are thought about, the more liable we are to fall into contradiction with regard to them. There is nothing parallel to this in the case of laws that are of a purely psychological character. It seems clear that the Laws of Thought are objective, rather than subjective, in their character.

(*b*) Yet they are not to be interpreted as conditions of reality. It may be true that nothing that is real is self-contradictory; but it does not appear that we are entitled to affirm this without investigation and discussion. If reality be understood in the sense of simple existence, it has been definitely affirmed by some—*e.g.*, Dr. Bosanquet—that some things that exist are self-contradictory. This may be false, but it is not obviously absurd. Things that seem to have a certain colour, when looked at in a particular way, seem to be without it when they are differently regarded. This apparent contradiction may be removed; but it seems clear that we are led to remove it, not by the appearance of the thing, but by our dislike of contradictory affirmations. Again, if reality be understood in a different sense, as opposed to mere appearance, it is not at once apparent that reality in this sense must be self-consistent. We cannot assume that the actual is rational, though we may take it a as working hypothesis, or even be able to prove it by an elaborate course of argument. Parmenides may on the whole be regarded as the first philosopher who definitely sought to maintain the rationality of the actual; but Zeno, his chief disciple, was apparently only able to defend his position by urging that any other view led to difficulties and contradictions that were at least quite as great. Plato, largely by reflexion on the work of Parmenides and Zeno, was led to a fresh effort to maintain the rationality of the actual; but he maintained it by the method of dialectic—*i.e.*, by showing the contradictions that are involved in any way of thinking that does not grasp reality as a whole. This line of thought was, in more modern times, elaborated, with German

thoroughness, by Hegel; and, still more recently, it has been reinforced, in a more tentative way, by Mr. Bradley and others. According to any view of this type, the self-consistency of the whole involves the contradictoriness of all partial views of it. If a doctrine of this kind is correct, self-consistency can only be established as an ultimate result of thought about reality, not assumed as a fundamental presupposition. It is, moreover, very difficult to establish a view of this kind in such a way as to make the coherence and self-consistency of ultimate reality thoroughly clear; and, until such a doctrine is definitely established, it cannot be held that there is any inherent absurdity in the views of those who doubt or deny that ultimate reality can be apprehended as a self-consistent system. Such doubt or denial may either be set forth in a definitely sceptical form, such as that of Gorgias, or it may simply be stated as an objection to the view that the nature of reality can be intellectually apprehended. It may be supposed to be apprehended by some form of intuition or faith, rather than by clear thought. Heraclitus, for instance, seems to have maintained that contradictoriness lies in the essential nature of things; and it appears to have been largely in opposition to him that Parmenides was led to formulate his doctrine. Plotinus, again, partly following Plato, held that reality can only be grasped by intuition, not in a definitely intellectual way; and, in our own time, a similar view has been set forth by M. Bergson, and, in a somewhat different way, by Mr. Balfour, with a great deal of eloquence and persuasive power. Kant also urged that, in attempting to form a coherent view of the universe, thought falls inevitably into self-contradiction, and that ultimate reality must be held to be incomprehensible. He did not, however, recognise the possibility —at least for human minds—of any intuitive apprehension of reality, but only urged that certain views about it might rightly be entertained on the basis of moral faith, as fundamental postulates. He recognised, moreover, that the views entertained on this basis were self-contradictory, and hence incomprehensible by the human mind. The utmost that we could hope with regard to them—*e.g.*, with regard to the postulate of freedom—is that we might 'comprehend their incomprehensibility'. Now, we are not at present concerned with the truth or falsity of any of these doctrines. But it can hardly be maintained that they are *prima facie* absurd; and hence we are hardly entitled to assume, as a fundamental presupposition, that reality is self-consistent. Fundamental laws of thought must not, therefore, be based on the nature of reality.

(*c*) It is more legitimate to regard them, with Kant, as being of the nature of ideals or regulative principles. But even this view is subject at least to some qualification. In thinking about reality we are trying to grasp its essential nature. If this essential nature is not self-consistent, it cannot be, in any final sense, an ideal for thought that it should be so apprehended. It would seem best to say rather, as Mr. Bradley does, that the effort after self-consistency is a 'rule of the game' of thinking. But of course this is a somewhat playful way of expressing what is meant. The attempt to apprehend the nature of reality is not a game. It is rather the most serious business of life; and, even those who doubt the efficacy of thought as the instrument of such an apprehension, have to recognise that it is the only instrument that human beings possess in any definite form. It might be best, therefore, to describe what are called the fundamental laws of thought as the chief implications that are involved in the use of this instrument.[1] Accepting this as a general statement of what is to be understood by these laws, we may now proceed to consider more definitely how they are to be interpreted. In doing so, it will be convenient to consider separately the implications of conception, the implications of judgment, the implications of reasoning, and the implications of belief.

2. *Implications of Conception.*—The essence of a conception lies in the definiteness of its meaning. Until it has been clearly defined, we can hardly be said to apprehend it at all. In the case of numbers, for instance, it can hardly be doubted that even an animal is more or less aware of the difference between a large number of things and a small number. Some savage peoples do not appear to have a much more definite apprehension of numerical relations than this. Most civilised people, on the other hand, are able to count things and calculate their relations. But it is only the trained mathematician who has a clear apprehension of number as such. Similarly, there are but few people who can be said to know definitely what is meant by life, art, religion, morality, government, truth, reality, value, and many other concepts; although almost every one is able to make some use of them for practical purposes, and even to

[1] I need hardly state that I am not here admitting that thought can be properly described as an instrument. My point is that, even if we say, with M. Bergson, that the intellect is only an instrument that has a certain value for practical purposes, we have still to recognise the conditions under which that instrument works. The less we ascribe to thought, the better may we be able to see the irreducible minimum of its implications.

think about them in a vague way. It is only when they are clearly defined that they acquire a fixed meaning; and even then further reflection upon them may lead to some modification in their definition. But they cannot be employed for the purposes of exact thought until their meaning has been at least provisionally fixed. When this is done, the concept has a certain permanence, and is distinguished from every other concept. The concept of a circle, for instance, can be clearly grasped, and marked off from that of an ellipse or any other curve. Every instance of a circle is an instance of one definite type, and not of any other. There are thus involved in all cases of clear conception the aspects of identity and difference; and it is here that we see the significance of the first of the so-called laws of thought. A meaning is identical with itself, and distinct from every other. This does not, of course, involve that the meaning may not be changed. There is perhaps no term that is not liable to have its meaning changed in some degree from time to time. Even in mathematics this occasionally happens, and in the more concrete sciences—especially those that are concerned with human life—it happens with considerable frequency. But when the meaning is changed, we are no longer dealing with the same concept, though we may be dealing with a closely related one. Clear thought is not possible unless we continue to use our terms in exactly the same sense. We cannot make any definite statements about unity, motion, redness, sweetness, pain, or any other concept, unless we are able to assume that every time the term is used it conveys a meaning that remains identical with itself, and is distinct from any other meaning. If we mean by religion sometimes one thing and sometimes another—even if the two things are very closely related — our thinking about religion is almost certain to be, in some degree, fallacious. It was this, I believe, that Parmenides had in mind when he first formulated the principle of identity. Being, he urged, must always mean being, and must always be distinguished from non-being. Plato, in like manner, contended that a definite meaning must be assigned to rest and motion, likeness and unlikeness, one and many, justice, knowledge, beauty, goodness, and every other fundamental concept. Otherwise there can be no clear thinking. It is important to observe—and it was fully recognised by Plato—that the fixity and eternity of these concepts does not imply that the particular objects to which these concepts may be applied have any similar fixity. Nor does it imply that an object to which one concept is applicable may not also have another concept applied

to it which is different and even opposed in meaning. A thing that, from a certain point of view, can be regarded as one, may also be regarded as many, from a different point of view. The earth may be at rest with reference to us, and in motion with reference to the sun. What we *mean* by one and many, by rest and motion, is not affected by such applications.

It is important to bear in mind, further, that, in recognising the element of identity in the concept, we are not excluding the aspects of difference that go along with it. In fixing the meaning of a concept, we are at the same time marking it off from every other concept. Red is red, and it is not blue. Moreover, we have to remember that every instance to which a concept can be applied is distinguishable from every other instance. Every instance of redness is distinguishable from every other instance. But each instance is identical with itself. The redness of this fire at this moment is that particular case of redness, and not any other; and every time we refer to that particular redness, we are referring to the same identical object. The meaning of the particular instance does not change, any more than the meaning of the general concept.

If this interpretation of the principle of Identity is correct,[1] it enables us to see more clearly what is to be understood by a law of thought. It is not the statement of a psychological fact. Few people do have or retain such definitely fixed meanings as are here referred to, except in mathematics and some other technical subjects in which accuracy is important. Neither is it a statement about existent things. A particular redness may disappear as soon as it is observed, and may never recur again. Even a class of animals or plants may gradually be transformed. Nor is it a statement about ultimate reality, which may be as changeable as the flux of Heraclitus or of M. Bergson. Nor, again, is it an imperative that we are bound to obey. It is quite possible to maintain that it is a mistake to try to determine either general concepts or particular instances in this definite way. It might very well be contended, for instance, that it is misleading to seek for a precise definition of religion. It might be urged that this is only a convenient term for grouping together a number of facts that have certain affinities with one another, but to which no one definite meaning can be applied—just as the term 'heretic' may be used to group together people who may differ as much from one another as they do from

[1] See below for some further consideration of it, in relation to judgment.

some recognised authority. Similarly, it might be urged that a definite conception of the State—say, that held by Treitschke, for instance—is highly misleading and even mischievous; and that it is much better to content ourselves with some vague conception that is sufficiently serviceable for practical purposes. Or it might be held that it is better to have no conception of God—or only a vague and variable one—than such a clearly fixed one as that of Calvin. Again, it may be urged—as by Bergson, Nietzsche, and the Pragmatists—that *all* definite concepts have this misleading character, and that for any final truth, if there is any absolute truth at all, we have to rely on intuition.[1] Even so, however, it would seem that we ought at least to have some clear conception of what is meant by truth, by intuition, by misleading, by mischievous, by better and worse. If we are to think at all, we must have *some* concepts that have a definite and fixed meaning. The law of thought, in this case, is simply a statement of what is involved in anything that can be regarded as a definite thought. It may sometimes be wise not to think definitely, or not to think at all. There may have been wisdom in Goethe's Witches.

> Die hohe Kraft der Wissenschaft
> Der ganzen Welt verborgen;
> Und wer nicht denkt, dem wird sie geschenkt,
> Er hat sie ohne Sorgen.

Still, thinking is thinking, and it has its implications. Similarly, a picture is something that can be seen. It may be a poor thing. It might be much better if it could not be seen; but, in that case, it would hardly be a picture. It might even be better—as Plato sometimes seems to suggest—that there should be no pictures at all. This is a question of values. And so it is in the case of concepts. A concept, if it is to be a concept at all, must have a definite meaning; and this is true, even if we grant that it would be better not to have concepts at all, or that they have only a provisional value. The question of values does not concern us at this point. We are only concerned with what is implied in having a concept; and it would seem that this is all that we need understand by a law of thought in the present case.

Having thus seen how a law of thought may be interpreted in relation to concepts, we may now proceed to consider its significance in relation to judgments.

[1] The dialectic of Plato and Hegel, by which the inadequacy of certain conceptions is shown, is of course very different from this. The conceptions have first to be made clear and definite before their inadequacy can be brought out.

3. *Implications of Judgment.*—A judgment, like a concept, is a meaning, but a meaning of a somewhat different kind. The judgments '2 + 2 = 4,' 'Green is not blue,' 'If a triangle has two sides equal, it has two angles equal,' 'He either fears his fate too much or his deserts are small,' all convey definite meanings; and the affirmation of these meanings implies the rejection of others. The statement '2 + 2 = 4' would have no meaning at all if it might equally well be said that '2 + 2 = 5'. Every judgment may thus be regarded as both affirmative and negative. It asserts something, and negates everything that is inconsistent with that assertion. The principle of Contradiction is thus implied in all judgment. Here again we have to bear in mind that we are not at present concerned with the truth or falsity of judgments, nor with the question of the value of the act of judgment. It may be the case, as some maintain, that all judgments are more or less false. The injunction 'Judge not' may have a wider application than is commonly supposed. These considerations have no relevance to the present inquiry. We are only concerned with the questions What does a judgment mean? and What does that meaning imply? And even with these questions we are concerned only in a limited way. We are not inquiring into the significance of different types of judgment, but only into the kind of meaning that attaches to every judgment, and the immediate implications of that meaning. It is very important for our present purpose that we should limit ourselves strictly to these two points.

When we thus confine ourselves to what is strictly relevant, the significance of the principle of contradiction becomes clearly apparent. Every judgment may be regarded as the answer to a question, *i.e.*, it is the statement of a meaning in a case in which other meanings are conceivable. The statement 'This leaf is green' answers the question, 'What is the colour of this leaf?' Other answers might conceivably have been given. The judgment gives one answer, selected out of other conceivable answers, and excluding these other answers. The judgment may be a false one. The leaf may not really be green at all, or it may be only partially green, or may only appear green in certain lights. But the judgment asserts that it *is* green, and, in so doing, denies that it is *not* green. And what the principle of Contradiction calls attention to, is that every judgment contains the implication of such an assertion and such a denial. It thus plays a similar part in relation to judgments to that which is played by the principle of Identity and

Difference in relation to concepts. It makes the meaning definite, and brings out its positive and its negative aspect.

The principle of Excluded Middle serves simply to lay further emphasis on the definiteness of the judgment. The assertion 'This leaf is green' excludes the assertion 'This leaf is not green'. They cannot both be true and they cannot both be false. Of course they may both be inadequate. The leaf may be partly green and partly yellow. Also the attribution of colour to the leaf at all may be open to question. Perhaps the statement ought to have been, 'This leaf appears green in parts when looked at in a certain way in certain lights'. There would thus be a sense in which it is green and also a sense in which it is not green. But the point is that it cannot be green in the same sense in which it is not green; and that, in the sense in which either assertion can properly be made, either the affirmative or the negative must be true. Otherwise both judgments would be meaningless. Meaninglessness, as Mill urged, lies between truth and falsehood. But the essence of judgment is meaning. To say that it is meaningless, is to say that it is not a judgment. With what qualifications its meaning is to be understood is a question of interpretation. 'This leaf is green' may only mean, 'In normal lights the colour that is predominantly apprehended in connexion with this leaf is green'. All that has here to be maintained is that, whatever the meaning of the judgment may be, it excludes its opposite; and that one or other of them must be true. The significance of this, however, will become more apparent when it is considered in relation to belief.

It will be observed that I have not included the principle of Identity as one of the fundamental implications of judgment. It has of course frequently been so regarded, being usually stated in the form A is A, and being supposed to express the essential identity of subject and predicate. The unsatisfactoriness of this has often been pointed out; and recently Miss Constance Jones, in her interesting essay on 'A New Law of Thought,' has proposed that the principle of Identity should be dropped, and that the principle of Identity in Difference should be substituted for it. But it is difficult to see that any definite law is provided in this way. A formula of this kind does not seem to throw much light on the very varied relations between subject and predicate that are expressed in different types of judgment. I am prepared to allow, however, that what has been called the Law of Significant Assertion is a fundamental implication of judgment—*i.e.*, the general principle that there is a definite

meaning in referring one thing to another (*e.g.*, a quality to a substance, or an object to a class). But, as Prof. Stout has pointed out, in his Preface to Miss Jones's Essay, this hardly seems to be a substitute for the principle of Identity. On the whole, it seems best to say that the principle of Identity applies to the concept, rather than to the judgment. What the judgment may be said to bring out, is, that the Identity of the concept is not so hard and fast as to prevent it from being brought into some sort of unity with other concepts. This does not conflict with the principle of Identity, as explained in the previous section; and perhaps it is right to say that this further implication of its meaning comes out in the interpretation of judgment.

Another way in which the principle of Identity has been interpreted in relation to judgment, is summed up in the statement that 'what is once true is always true'. But to apply this to any ordinary judgment requires a great amplification of its meaning. To show that 'This leaf is green' is always true, we should have to interpret it as meaning something like this—What is indicated by a certain person at a certain time as 'This leaf' presented the appearance which is recognised by normal vision in normal light as greenness. Even when it is thus expanded, some doubt might still be raised as to the sense in which it can be said to be eternally true. The whole problem of the meaning of truth is raised by such an interpretation; and I think it is hardly right to maintain that an ordinary empirical judgment implies a definite theory of truth. Any statement that would be definitely rejected as untrue by many of the leading writers on philosophical subjects could scarcely be described as a necessary Law of Thought. In the case of those principles that I have ventured to set forth as being entitled to stand on that proud eminence, I have endeavoured to make it clear that, as here interpreted, they are compatible with the most diverse theories of Truth and Reality. The same applies to the other principle that remains to be noticed, as being implied in Inference and Belief—the latter being distinguished from Judgment.

4. *Implications of Inference.*—Inference is entirely a matter of implication. It consists in making explicit what is implied in some meaning or combination of meanings. The fundamental presupposition of this is that one meaning is implied by other meanings, which serve as its ground. We are thus led to the principle that was referred to by Leibniz as that of Sufficient Reason or Ground. But before this can be properly dealt with, it seems necessary to refer

to a still more fundamental principle, which may be best characterised as that of Objective Order. The possibility of inference depends on the fact that one meaning is intimately connected with others. The judgment '2 + 2 = 4' readily yields the judgment '4 − 2 = 2,' because it is not an isolated judgment, but one that falls within the general numerical system, within which the relations represented by + and − have their meaning. Similarly, 'blue is darker than yellow' gives us at once 'yellow is lighter than blue,' because the meanings with which we are dealing fall within the general scheme of colours, in which darker and lighter signify places in a definite order. So also 'A is before B' yields 'B is after A,' because the reference is to the general system of time order. 'A is to the right of B' yields 'B is to the left of A,' because we are dealing with a definite order of space relations. 'A is the husband of B' yields 'B is the wife of A,' because we are dealing with a definite form of human relationship. 'A is better than B' yields 'B is worse than A,' because the reference is to a definite order of values. 'A is greater than B' yields 'B is less than A,' because we are concerned with a definite order of magnitudes. 'A is the cause of B' yields 'B is the effect of A,' because we are referring to a definite order of causal relations. 'Man is an animal' and 'animals are mortal' are two judgments which yield 'man is mortal,' because the former judgment refers man to a definite class arrangement, to which a special characteristic has been ascribed. This last form of order was the only one that was definitely recognised by the Aristotelian logic, and it still forms the basis for the greater part of the treatment of inference in modern formal logic. But it seems clear that it is only one case of the kind of order that furnishes a basis for inference. The general basis of all inference is the recognition of some form of Objective Order. This is the case even with inferences of a simpler type, in which we appear to proceed by simple identity, as in the admirable illustration that is given by Dr. Bosanquet. The two judgments 'His first penitent was a murderer' and 'I was his first penitent' yield at once the judgment 'I was a murderer'. But evidently this depends on the recognition of an order of penitents and the continuity of the individual life. Similarly, it is very obvious that the principle commonly referred to as the 'uniformity of nature' is simply the recognition of definite order in natural phenomena. It is needless to elaborate this. It seems clear that there could be no inference of any kind without the recognition that the meanings expressed in judgments fall within systems of Objective Order.

Here again it is important to bear in mind that we are not at present concerned with the reality of such Orders, but only with the fact that they are implied in inference. The uniformity of nature may be subject to many exceptions. The causal order may be broken by Contingency. Time may not run on continuously.[1] The man who was the first penitent may really have become a different person. All that we are concerned to urge is that, so far as any of these negations of order are true, inference becomes invalid or uncertain. It is only in this sense that we seem bound to maintain that the principle of inference is that of Objective Order. Obviously this connects closely with the principle of Sufficient Ground; but it seems better to consider this in connexion with belief.

5. *Implications of Belief.*—The difference between a belief and a proposition or judgment[2] is that, while the latter is simply the expression of a complex meaning, the former is the acceptance of that meaning as true by some particular person. This, of course, raises the question, What is Truth? but with that we need not at present concern ourselves. There may be no such thing as truth: or it may be only a name for what is generally believed. All that is important for our present purpose is that the meaning expressed in a judgment may be accepted or rejected; and that for this acceptance or rejection there are certain grounds. It would seem that we can distinguish five kinds of ground on which belief may be based. (*a*) We may believe something simply because we choose to believe it; (*b*) We may believe something because we have been taught to believe it; (*c*) We may believe something because it appears to be self-evident; (*d*) We may believe something because it is a valid inference from something else that we believe; (*e*) We may believe something because it appears to be a necessary assumption for the establishment or explanation of other beliefs. It is sometimes difficult to make a sharp distinction between these grounds of belief. Often beliefs are entertained on the cumulative force of more than one ground. But, in general, the

[1] I am of course not admitting that any of these doctrines can be maintained, I am only urging that they may, for our present purpose, be regarded as irrelevant.

[2] Some prefer to make a distinction between proposition and judgment, and to treat judgment as equivalent to belief. It seems to me better to regard a proposition as the expression of a meaning, a judgment as the meaning that is expressed, and a belief as the acceptance of that meaning by some person or persons. With the psychological analysis of belief we are not at present concerned; nor are we here considering how the truth of beliefs is to be interpreted.

distinctions seem sufficiently clear. The following illustrations may help to bring out their meaning. A man may believe that he will succeed in a particular enterprise that he has undertaken, because he very much wishes to succeed, and failure is 'unthinkable'. In the language of William James,[1] he 'wills to believe'. The ground here is purely subjective; though, of course, it will generally be the case that grounds of a more objective kind are mixed up with it. When a man chooses to believe something, he generally looks round for some circumstances that will justify it. But the subjective ground is real, and sometimes it has a certain value in practice. In war time, for example, the 'will to win' is recognised as an important element in national psychology. *Possunt quia posse videntur.* But sometimes it is only a source of blindness. Most people in this country chose to believe that a great continental war was almost impossible, in spite of all the warnings that they received, and all the evidence of preparation for it. This did not make the catastrophe any the less real, or enable them to meet it more effectively. Nor do optimism or pessimism with regard to its outcome—often based largely on individual temperament—have much direct influence on the actual result. But it seems clear, from such instances, that the ground of our beliefs is often a psychological ground, and that occasionally the entertaining of beliefs on such a ground may be justified. On the other hand, beliefs may be based rather on social pressure than on individual inclination. The weight of custom and tradition is often greater than that of personal bias. It is inevitable that we should accept many things on the authority of experts or on the general ground of the trustworthiness of human testimony. A man may believe that he is immortal, not merely because he wishes it, but because it is one of the doctrines of the Church to which he belongs. The Church may have other grounds for its doctrine; and the individual may have other grounds for belonging to the Church. But in both cases it may be true that the explanations are historical and psychological, rather than logical. Again, a man may believe that 'the whole is greater than its part,' because it seems to be self-evident. He may believe that if he steals he will be punished,

[1] William James explained afterwards that by 'the will to believe' he meant only the *right* to believe; but apparently he still meant the right to *choose* our beliefs without definite objective grounds. It seems clear that all believing is choosing. The question is only, What constitutes a sufficient ground for such a choice? Perhaps if James had been content to claim the right to *hope*, he would have been less open to criticism.

because it is a valid inference from what he knows of the social order. He may believe that there is a uniform three-dimensional space, because without this conception he cannot deal with the problems of Euclidean geometry.

Now, the first two of these grounds do not appear to call for any special comment at this point. They could only be properly dealt with by a general consideration of the development of choice and the influence of the social factor upon it. The fourth also need not further concern us. To accept a judgment or a number of judgments is to accept what can be logically inferred from them. The third and the fifth grounds, however, raise the problems of Axioms and Postulates or Hypotheses, on which some remarks appear to be necessary.

6. *Axioms.*—This term has been applied to judgments of very different types. The simplest kinds of axioms are those that merely unfold the implications of certain conceptions. A few illustrations from geometry may serve to make this clear.

(*a*) 'A whole is greater than its part.' This simply brings out what is meant by 'whole' and 'part' in extensive magnitude. A foot is made up of inches, and the foot is greater than the inch. As soon as we go beyond magnitudes that are purely extensive, the axiom becomes doubtful, and may be false. A chain, for instance, is not stronger than its strongest link: on the contrary, it is only as strong as the weakest. The same applies to a chain of reasoning. Similarly a heated surface is not as a whole hotter than its hottest point. The vitality of a plant is not necessarily diminished by pruning; nor is the strength of an army necessarily increased by the addition of inefficient troops. The Greek proverb that 'the half is greater than the whole' (*πλέον ἥμισυ πάντος*) calls attention to the fact that a magnitude which is extensively greater is often less in power and value. Even in knowledge the piling up of a mass of material does not necessarily mean more insight. The saying of Hobbes is sometimes worth remembering, 'If I had read as much as others have, I should have known as little'. But, as applied to magnitudes that are purely extensive, the axiom admits of no doubt, because it simply explains what is to be understood by such a magnitude.

(*b*) 'Things that are equal to the same are equal to one another.' This, again, simply makes more clear the meaning of equality. If A is equal to B, B is equal to A. If A is equal to B, and B is equal to C, A is equal to C, and C is equal to A. Similar axioms might be stated with regard to

other relations. If A is before B, B is after A. If A is before B, and B is before C, A is before C. If A is to the right of B, B is to the left of A. If A is to the right of B, and B is to the right of C, A is to the right of C. If A is an ancestor of B, B is a descendant of A. If A is an ancestor of B, and B is an ancestor of C, A is an ancestor of C. Axioms of this kind simply bring out the meanings of certain relations and orders.

(*c*) 'Two straight lines cannot enclose a space.' This is a little more difficult. A simpler way of stating it is 'Two straight lines can only meet at one point'. This follows from the meaning of a straight line, which is perhaps best interpreted as a definite direction in space. Now, in a uniform Euclidean space, every direction is completely different from every other. Two straight lines from one point mean two entirely different directions from that point, and have consequently no other point in common. This simply brings out a characteristic that is involved in the meaning of Euclidean space, and does not necessarily apply to other conceptions of space.

Such axioms as these present no real difficulty. They are analytical, in the sense that they simply serve to bring out the meaning of conceptions. Some of the axioms that are set forth by Descartes are similar, if they are strictly interpreted. 'A being who can do what is more difficult can do what is easier' is analytic, if we add the words 'for him'; for it then simply explains what is meant by easy and difficult. But, without this addition, it involves the questionable assumption that what is easy for one being is easy for another, and what is difficult for one is difficult for another. Emerson's squirrel says to the mountain—

> If I cannot carry forests on my back,
> Neither can you crack a nut.

It was probably easier for Napoleon to lead an army than to write 'Faust': for Goethe the reverse might very well have been true. Hence the axiom of Descartes is a very questionable one. Similarly, his axiom that every moment in time is a distinct existence from every other, involves a theory, and a very questionable theory, about the nature of time. Axioms of this kind, if they are to be admitted at all, are better characterised as Postulates.

7. *Postulates.*—What are called Postulates in mathematics are not always very clearly distinguishable from axioms. The postulate that a straight line can be produced indefinitely seems to be involved in the conception of a straight

line as a direction in a homogeneous space, and consequently involves simply the same presuppositions as those contained in the statement that two straight lines cannot enclose a space. The difference seems to lie merely in the relative simplicity or complexity of the assumptions that are involved. Sometimes the assumptions are very great, as in Descartes' assumption with regard to the nature of time, or in Kant's Postulates of Practical Reason. Such assumptions are made on the ground that, without them, it is impossible to give a satisfactory account of certain facts. Kant thought, for instance, that, without the Postulates of Freedom, Immortality and God, we could not give a satisfactory account of the moral life. What are sometimes called 'Working Hypotheses' in physical science are of a similar character. Even the doctrine of the Conservation of Energy seems to be essentially such a working hypothesis. The difference between these and such axioms as have been referred to in the previous section, is that the latter are involved in the meaning of the conceptions with which we are dealing, while the former are only required for explanation, *i.e.* for bringing the particular facts with which we are dealing into relation to some more comprehensive order. But, as every judgment implies the recognition of some kind of objective order, it may be urged that the difference is one of degree. It depends on the extent to which it may be held that we are obviously entitled to take some kind of order as self-evident or intuitive. This is a point that calls for further explanation.

8. *Intuitive Belief.*—There are some things that it is hardly possible to doubt. We can hardly doubt, for instance, the validity of the mathematical operations by which the relations between numbers are established; and we can hardly doubt that numbers are applicable to objects. When we think of three points, three triangles, the three sides of a triangle, three petals, three sheep, three men, three nerves, three judgments, or the three persons of the Trinity, it seems clear that there is an intelligible sense in which triplicity can be ascribed to each of these objects; and that whatever can be shown to hold of the relations of three to other numbers will be applicable to these objects, so far as they are properly described as three. How far they are rightly so described is of course another matter. In some cases the units appear to be separable in a sense in which others are not; and in some cases they appear to be homogeneous in a sense in which others are not. But still there is a clear meaning in characterising them as three; and, so

long as we adhere definitely to that meaning, we can say that they are one more than two, and one less than four; and we can go on to apply various other numerical relations to them. There are, however, important qualifications. If there are three triangles or three men, one may be removed, and two will be left. It is not in the same sense possible to remove one of the sides of a triangle or one of the petals of a flower or, we may suppose, one of the persons of the Trinity, without altering the whole character of the object. Nor can any of the objects referred to be divided into fractions, as a brick or a cheese might be, without altering or destroying its character. Apart from such qualifications, however, it seems clear that numbers have definite meanings which can be applied to objects of the most varied types. Similar remarks may be made about equality. A number of peas or eggs may be said to be all equal, and so may a number of men, provided that we confine our attention to certain purely quantitative aspects. And even things that are not quantitatively equal may be recognised as equivalent or 'fungible' for certain purposes. A coat and a pair of boots, for instance, may be recognised as being exchangeable, though they are very different in size, number, and appearance, and in other respects adapted for very different purposes. So men, as 'food for powder,' may be treated as equivalent, though one might be hardly distinguishable from Caliban and another might be the author of 'The Tempest'. So with words. In speaking of the motion of a bird's wing, we may call it 'beating' or 'flapping'; but when John Bright, at the time of the Crimean War said, 'The angel of death has been abroad in the land: we can almost hear the beating of his wings,' the substitution of the word 'flapping,' as was noted at the time, would have led at once from the sublime to the ridiculous.

What appears from such instances is that we very readily make use of conceptions, such as number and equality, and apply them to particular objects, and can hardly doubt that they are applicable, when they are used in certain easily recognisable ways; but that their use becomes doubtful, and requires careful consideration, as soon as we pass beyond such simple applications. The same applies to our use of time relations, causal relations, and others. That in some sense one thing is before another, and that in some sense one thing is the cause of another, is often so obvious that it would hardly be possible for any one who was not mad to doubt it. Our belief, in such cases, is sometimes said to be instinctive; and there seems to be a sense in which it is

hardly possible to doubt that many of the animals have such beliefs—if they can properly be called beliefs. Birds are probably unable to count; but it is pretty certain that they recognise some difference between one egg and two eggs. Most animals also act habitually in ways that seem to imply some apprehension of equality, greatness and smallness, before and after, cause and effect, and similar conceptions, as applied to particular objects in particular circumstances. But the ability to do this is very different from the ability to apprehend clearly the meaning of these conceptions, and to understand the qualifications with which they are applicable to different types of objects. The fact, however, that we have such instinctive or intuitive beliefs before we discover their full meaning and implications, and the qualifications with which it is right to apply them, is not merely of practical importance—in the sense that, otherwise, it would hardly be possible to carry on our lives at all: it has also a theoretical significance as serving to show that our use of conceptions is not an arbitrary game, but has its foundations in the nature of the world that we apprehend. This, however, is not a point on which we need dwell further at present. What I have rather sought to bring out, is that such intuitive beliefs, though in some sense hardly capable of being rejected, stand in need of criticism before we can be sure that we know the exact sense in which they can rightly be accepted.

9. *Foundations of Logic.*—What has now been urged about the meanings and implications of conceptions, judgments, inferences, and beliefs, should enable us to see more clearly what is the basis and significance of logical doctrine. If we define logic as the science of implications, we shall not, I think, be departing widely from what it has generally been taken to mean. But there are different ways in which implications may be considered; and these give rise to different types of logical doctrine.

In what is commonly called Formal Logic, only one kind of implication is dealt with—*viz.* that involved in the conception of classes. From the point of view of modern thought, this is little more than a game. It was not a game for its founder, Aristotle, because he regarded classification as the great aim of science. The formal treatment of thought can, however, be extended, as it is in modern mathematical logic, so as to deal with other relations than those of classes. The treatment of fallacies is, moreover, often combined with the study of formal logic; and, in dealing with these, the implications of language have to be considered in a more concrete way. The study of the methods

of the special sciences, in the more empirical types of logic, involves the consideration of some of the chief forms of objective order, notably that of causation. Transcendental logic, on the other hand, seeks to deal with all the fundamental conceptions that are used in thinking, and to bring out all their implications. Thus it seems right to say that implication is the one subject with which every kind of logic is concerned. It is confusing to mix this up with psychological inquiries into the processes of thinking, or with discussions about the general nature of knowledge, or with the meaning of truth and reality, except in so far as questions may arise about the implications of different conceptions of knowledge or truth or reality. The one aim of all logic is to make our meaning clear, and it would be well if it could confine itself to this. No doubt in doing this it is incidentally helping us to discover truth—at least if truth is something that can be made clear. At any rate, the laws of thought, with which we have here been dealing, would seem to be simply the fundamental conditions of clearness. How far such clearness enables us to gain a genuine insight into truth and reality, is another question; but at least we can hardly hope to gain such insight without it.

II.—BERKELEY'S REALISM.

By Prof. J. Laird.

It has been the practice, in recent times, to call attention to certain passages in Berkeley's writings which imply, if they do not explicitly state, something closely akin to the doctrine which is now called realism. Thus Prof. Alexander, in explaining the basis of realism, writes: "The obvious distinction of the mental act from what it is about would obtain if the object were merely a mental content or presentation; and it is implied by Berkeley himself when he declares that mountains and trees exist in the mind not by way of mode but of idea. What the statement means, is, that the object of the mental act is a distinct existence (or subsistence) from the mental act."[1] Prof. Dawes Hicks, again, lays emphasis upon the same passage to the same purpose,[2] and we may quote the passage itself, with a view to a more general discussion of the whole subject. The opening sentences, then, of paragraph 49 of Berkeley's *Principles* run as follows: "*Fifthly*, it may perhaps be objected that if extension and figure exist only in the mind, it follows that the mind is extended and figured; since extension is a mode or attribute which (to speak with the Schools) is predicated of the subject in which it exists.—I answer, those qualities are in the mind only as they are perceived by it;—that is, not by way of *mode* or *attribute*, but only by the way of *idea*. And it no more follows the soul or mind is extended because extension exists in it alone, than it does that it is red or blue, because those colours are on all hands acknowledged to exist in it, and nowhere else."

Berkeley repeats the same explanation in the *Dialogues between Hylas and Philonous*[3] in very similar language, and

[1] *The Basis of Realism*, p. 5.

[2] *Proceedings of the Aristotelian Society*, 1911-1912, pp. 167-168.

[3] *Berkeley's Complete Works.* Fraser's four-volume edition, vol. i., p. 455. "It is therefore evident there can be no *substratum* of those qualities but spirit; *in* which they exist, not by way of mode or property but as a thing perceived in that which perceives it." My references to the text of Berkeley are to this edition, and I shall indicate the page in vol. i. of it, *e.g.* (480), (334), *etc.*, unless I state otherwise.

we may therefore presume that the explanation itself was not a mere *obiter dictum* which he would have been willing to withdraw had a critic been disposed to take it too seriously. Moreover, it has been interpreted in a manner somewhat analogous to Prof. Alexander's even in the days when less was heard of the fundamental character of the distinction between act and object. Prof. Campbell Fraser also cites § 49[1] to show that Berkeley was not a subjective idealist, and that he did not regard sensible things as subjective modifications of the mind, but as presentations given to the individual mind, distinct from it, and accepted by it. It would be absurd, of course, to try to base an interpretation of Berkeley's general theory on a single reply to an objection, even if that reply is repeated; but if presentations are 'in mind' only in the sense of being 'before mind,' and if, as Berkeley certainly maintains, the whole choir of heaven and furniture of earth consist really and truly of nothing but presentations, then it would seem very hard to distinguish the main presuppositions of Berkeley's theory of physical reality from certain realistic accounts of the nature of the external world, or even from such a doctrine as that of Mr. Russell in his recent Lowell Lectures.

Indeed, although it may savour of wilful paradox to claim that Berkeley, also, is among the realists, it is clear in itself that there is no necessary conflict between realism and idealism unless these terms are much more strictly defined than is frequently the case, and that theories apparently divergent may really have very close affinities. Berkeley certainly claimed that he was both a realist and an idealist, though he did not say so in precisely these words; and his claim, as certainly, was a just one on some acceptations of the terms. He regarded himself, we may say, as an idealist because he could offer (as he thought) a convincing proof of the truth of immaterialism and because he endeavoured to demonstate that the entire system of things depends on a supreme and benevolent mind. Again, we may say that he gloried in being a realist because he affirmed and proved the full reality of what any sane man regards as real, just as he regards it before he allows himself to become debauched with learning. If Berkeley were driven to certain '*ambages*, and ways of speech not common' in defending his views, that he believed to be an affair of words, after all, and of words only. Indeed, it would scarcely be possible to conceive of a system which, in its intention, was more thoroughly

[1] *Berkeley's Complete Works*, vol. iii., p. 405.

realistic than Berkeley's. When the ghost of that inert, unthinking *substratum* called matter had once been laid, mind, he thought, must come into its kingdom, and could trust both itself and its objects. "What doubts, what hypotheses, what labyrinths of amusement, what fields of disputation, what an ocean of false learning, may be avoided by that single notion of *Immaterialism*" (480). When once the principles of his philosophy had been grasped, everything became intelligible without residue and without correction. Sensible things must be what they appear to be, since their appearance is the only possible reality they can claim or require. *Because* they appear they are fully known as they appear, and to perceive a sensible thing is therefore to be aware of all that it is.

And Berkeley's realism goes deeper still. Not merely does he defend the full reality of sensible things, but he is able to show that all other realms of reality are also, in essence, known as they really are. The mind, which is neither a thing of sense nor like one, is known to us, through 'reflection,' as it really is, and the principles on which we rely for philosophical explanation are known with the same certainty as that with which sensible things are known. There is no substance save spirit, "with regard to which, perhaps, human knowledge is not so deficient as is vulgarly imagined" (334). There can be no cause save the will of a spirit, and the world itself is sustained by the self-same creative principle that we experience daily and hourly when we raise an image in our minds. As an image, though feebler than an idea of sense, can be observed to have the same stuff in it, so the Will which imprints ideas of sense on our minds is of a piece with the activity we experience when we create an imaginary scene. Everything that is, is concrete; and we have only to look into our minds and their objects to find what concrete reality means. If this be not realism, what is realism?

Berkeley's intention, then, was to be a realist of the straitest sort, because he was also an idealist, and this, in one way, is the intention of every idealist. For no one is an idealist unless he believe that his theory faithfully expresses the being of things. But in that way every philosopher is a realist, whether idealist or not, since all philosophers, except perhaps the sceptics, believe that they can show what reality is, so far as we have means to discover it, and that these means do not fail us utterly. We must therefore inquire whether Berkeley was a realist only in the sense in which every philosopher is a realist, or in some narrower and more

distinctive sense, and whether the character of his idealism has any bearing on this question.

What, then, was the type of Berkeley's idealism? Clearly, his idealism was not that of the Absolutists if, indeed, it had much in common with Absolutism. Berkeley insisted on the full reality of every appearance as it appears, and just because it appears; and the Absolutists deny this. He maintained, again, that finite minds are fully real as they appear, and he neither asserted nor implied that reality is a perfect whole in the metaphysical (not the ethical) sense of perfection. Nor was he an idealist merely because he was a theist and sought to prove that the whole universe exists in order to serve the righteous ends of the Creator, and the convenience of man's estate. For in that sense the orthodox view of Creation (which, despite Berkeley, admits the creation of matter) is idealistic in its purpose. The orthodox doctrine may indeed be cumbrous and unintelligible in parts because it is not of Berkeley's mind on this question, and it might be simplified without any ill effects if theologians came to agree with Berkeley in denying the existence of any matter save that which is, through and through, a sensible thing. But orthodox theology is plainly not idealistic in the usual sense of the term, and yet it insists on the divine purpose that underlies everything. Was Berkeley, then, an idealist just because he asserted the truth of immaterialism? It would be rash to suppose so, for it is very doubtful whether immaterialism, by itself, can possibly be regarded as idealistic. The intelligent layman in philosophy, it is true, believes these theories to be synonymous, but idealistic theories usually mean so much more than immaterialism that the intelligent layman might very well be mistaken. Berkeley himself considered his proof of immaterialism but a step in the more important demonstration of the theistic conception of reality, and his system as a whole unites, and is framed to unite, the two principles of the divine purpose and the immaterialistic constitution of reality. This union of ideal and of idea, of value and mind-dependence is probably requisite for any form of idealism. It is certainly present in Berkeley's theory.

Is Berkeley's idealism, then, inconsistent with realism, as realism is now interpreted? We have no right to maintain so, unless we can carry our analysis much farther than we have done up to the present. Modern realism rarely insists on the value of the universe, still less does it maintain that value is essential to the constitution of *any* universe, but such a view is not necessarily incompatible with realism, and might

conceivably be proved by special arguments to which the realist could not possibly take exception. And although modern realism is not immaterialistic in all senses, it might, for aught we know at the present stage of our argument, be immaterialistic in Berkeley's sense. According to Berkeley matter is only an abstract idea, and, indeed, the most abstract of all ideas; for it is the mere idea of being in general which, in all its abstractness, is yet regarded as the (unintelligible) *substratum* of concrete ideas. These ideas are 'in mind' and cannot possibly be 'in matter' in the same way; yet philosophers suppose that they are. Unless, then, the modern realist interprets matter after the fashion of the 'philosophers' against whom Berkeley contended (and we may be sure that he does not) it is possible that Berkeley's conception of extended and movable things might agree with his. If, on the other hand, the modern realist so interprets matter as to imply that whatever is immediately perceived by sense is literally part of its being, and that the sensible avouch of eyes and ears deserves a confidence as implicit as Hamlet gave them, then it seems possible that Berkeley might be fully in accord with this realism.

What are the cardinal presuppositions of modern realism? The foundations of the theory are laid in a certain analysis of knowledge, in the widest possible sense of that word. Whenever there is knowledge two things must be distinguished, the act of knowing and the object which is known. The act is never identical with the object, and need not share any of the characteristics of the object, except those which may be implied by the fact that both belong to the same universe. While the act must always exist at a definite time, and in connexion with other psychical acts, the object need not exist at all, and, if it exists, may exist at a different time from that of the act. There is an instance of the first if I now think of the number '2,' and of the second if I think to-day of the battle of Actium. Even when act and object are contemporaneous in date and duration, as they probably must be in sense-perception, the two are, none the less, existentially distinct. That is one part of the theory, and it implies, when more fully developed, that the mind consists of various acts (not necessarily of knowledge only), that these acts are not primarily objects of knowledge (if they ever can be), but belong to a different order. To admit this, however, is only a step towards realism, and not the whole of it. The truly realistic part of the doctrine lies in the further assumption that when an act refers to an object, the object is really and necessarily what it is directly for the

act. There is, in the end, no other evidence for the nature of anything than this. The object is revealed to the act as it actually is, whether it be a universal, or a sense particular, or anything else. It need not, of course, be merely what it appears to be, since it may be much more. But the act of knowing neither distorts nor infects the character of the object; and if there is more in the object than appears to the act, that is only a proof of the limitation of knowledge, and not, in any way, a proof of its falsity so far as it has gone. Similarly the mind may be more than its acts (whether these acts can be known through another set of cognitive acts of introspection or are only 'enjoyed' *i.e.*, felt intuitively but not as objects), but it must consist really and truly of these acts, whatever else it may contain. This theory, then, is realistic, in the end, because of its interpretation of the relation between act and object in cognition. The relation is one of direct acquaintance and reality is always revealed in such acquaintance, unless, of course, in the doubtful case of error. And error is so difficult to explain on any theory that realists may be pardoned if they are sometimes unfortunate in their accounts of it.

Now if Berkeley's argument be examined in detail, we find many striking resemblances to the spirit, and sometimes even to the letter, of these contentions; and if we remember the debt which the majority of modern realists owe to the great English philosophers of the eighteenth century, we must admit that there is no intrinsic absurdity in supposing a very close resemblance indeed, however novel the doctrine of neo-realism may appear to be. The question is how far these undoubted resemblances ought to weigh with any one who also considers the respects in which Berkeley and the new realists do not agree; and this is the question I desire to consider in this paper.

The modern realist could scarcely agree with the whole outline of Berkeley's argument, for, to mention no other reason, he would certainly dissent from Berkeley's theory of universals. Berkeley maintained that a universal is either an abstract idea, and therefore an absurdity, or else, like virtue, a thing of the mind. The new realist, on the contrary, regards a universal as an object, having being though not existence, and as real as any other object. But a modern realist need not deny the substance of Berkeley's account of the nature of the things perceived by sense. *Their esse* may be *percipi* in the sense that their apparent nature, without any qualification, is their real nature, and that they exist only when perceived. It would be difficult for any one to agree

with Berkeley's further contention that our sense-presentations exist eternally in the mind of God, and are imprinted on our minds by his will. A permanence of this sort is quite out of keeping with the presuppositions of his argument. If he proves anything concerning sensible things he proves that the reality of what I perceive through sense is its *percipi for me*, and his psychology can furnish no evidence of the direct apprehension by any one mind of the presentations of any other mind, or of the creation of any idea in our minds by the act of a will other than our own. Direct experience *must* be wanting in these cases, and Berkeley's account of the manner in which sensible things may be supposed to exist in the mind of God is too inconsistent to be credible. God, he says, perceives nothing by sense as we do (459), he cannot suffer pain (458), or have sensations that are in any way corporeal as ours are. While, then, the archetypes of colours, shapes and sounds may exist in God's mind, their reality for him cannot be the same as their reality for us; and sensible things, as we mean and intend them, must be shown to be real in their own right if their reality can be proved at all. But if this part of Berkeley's theory is inconsistent with the rest, the rest may still be consistent with modern realism.

Indeed Berkeley's insistence, frequently reiterated, on the reality of sensible things in the form in which they appear and just because they appear seems a statement of the theory of neo-realism that colours, shapes and sounds must be accepted at their face value whatever the difficulties. And if sensible things are in the mind *only* in the sense that they are the direct objects of mind, it would be hard to look for a fuller measure of agreement between two theories widely separated in time and in form of expression. Again Berkeley's view of what common sense is pleased to call one thing is (except, for the nominalism of it) identical with some neo-realistic accounts. Take the following passage, for instance: "Strictly speaking, Hylas, we do not see the same object that we feel; neither is the same object perceived by the microscope which was by the naked eye. But, in case every variation was thought sufficient to constitute a new kind or individual, the endless number or confusion of names would render language impracticable. Therefore, to avoid this, as well as other inconveniences which are obvious upon a little thought, men combine together several ideas, apprehended by divers senses, or by the same sense at different times, or in different circumstances, but observed, however, to have some connexion in nature, either with respect to co-existence or succession; all which they

refer to one name, and consider as one thing. . . . My aim is only to know what ideas are connected together; and the more a man knows of the connexion of ideas, the more he is said to know of the nature of things. What, therefore, if our ideas are variable; what if our senses are not in all circumstances affected with the same appearances? It will not thence follow they are not to be trusted; or that they are inconsistent either with themselves or anything else; except it be with your preconceived notion of (I know not what) one single, unchanged, unperceivable, real Nature, marked by each name. Which prejudice seems to have taken its rise from not rightly understanding the common language of men, speaking of several distinct ideas as united into one thing by the mind. And, indeed, there is cause to suspect several erroneous conceits of the philosophers are owing to the same original: while they began to build their schemes not so much on notions as on words, which were framed by the vulgar, merely for conveniency and dispatch in the common actions of life, without any regard to speculation" (463-464). Let nominalism be superseded by a more adequate conception, and there is a very short step from such a theory as this to the view that a thing is a class or a construction of sensibles, or that its sameness can be explained on a less rigid, but quite intelligible, theory of identity.

It would be absurd, of course, to try to construe Berkeley's theory as if it contained all that is valuable in modern realism both in expression and emphasis. No philosopher can anticipate others in that way, and no historian of philosophy can reasonably look for more than a general agreement in a tendency. When we examine more carefully, however, we find that this partial agreement in certain conclusions does not necessarily indicate the same measure of agreement in the principles on which the conclusions are based, and this is the fundamental question.

To begin with, although Berkeley's repeated assertion of the radical distinction between the nature and type of existence of unthinking things, or ideas of sense (whose *esse* is *percipi*), and the nature and type of existence of thinking things (whose *esse* is *percipere* and *velle*), seems in itself very similar to the contentions of the new realists, especially when considered in conjunction with his denial, already quoted, that ideas of sense are modes or attributes of mind, it is very doubtful whether this resemblance is as close as it appears, at least with regard to the interpretation of mind, and the psychology of perceiving. Unfortunately, however,

this important question is not very easy to answer, since there is considerable obscurity in Berkeley's account of these matters, and any interpretation of his meaning is liable to the perils of conjecture. Indeed, his analysis of spirit is in itself perplexing. In the opening paragraph of the *Principles* he seems to make an exhaustive survey of the objects of human knowledge, and to declare, like a dutiful follower of Locke, that these are either ideas actually imprinted on the senses (ideas of sensation), or else the ideas we have when we attend to the passions and operations of the mind (ideas of reflection), or, lastly, ideas of memory and imagination. But in a later part of the same work (§ 86) he declares roundly that human knowledge may naturally be reduced to two heads,—that of ideas and that of spirits, and subsequently (§ 89)[1] amends this division still further by admitting relations also. This is an astonishing divergence, unless we adopt the impossible interpretation that spirits are merely ideas of reflection; and the discrepancy is a serious hindrance to a useful comparison with any other theory whatsoever. Nor is the obscurity lessened by Berkeley's admission that we cannot have an idea of spirit except in a large and general sense (336), or by his belated, and in many ways verbal, distinction between *notion* and idea.[2] Still there is a real difficulty, as well as a verbal one in this connexion, and modern realists feel the difficulty themselves when they raise the question whether introspection can properly be regarded as the contemplation of an 'enjoyment'. Acts of mind are primarily enjoyed and not contemplated, and if they can be contemplated in a large sense only, if at all, that, after all, is precisely Berkeley's problem.

Again we should not, perhaps, lay very much stress on the extremely ambiguous account of 'reflection' that the *Principles* affords. It is confusing, no doubt, to be informed that spirits, passions, and relations are all known through reflection (257, 307), except in the case of the spirits or passions of others, and also that we have, and can have, no idea of spirit; and I shall return to this point. But we need not find a difficulty in the opening paragraph of the *Principles* unless we choose to make one. It is curious psychology, certainly, to consider sensible things, passions and images

[1] This amendment was not introduced until the second edition of the *Principles* (307).

[2] Berkeley's doctrine of notions (whose objects are spirits and relations), also appears as an amendment in the second edition. In the first edition he does not distinguish between notion and idea, and uses the terms indifferently.

as objects of knowledge in precisely the same sense. Sensible things and images have the same relation to the mind (if their cause is ignored), and Berkeley is probably right in regarding both as made of the same stuff though differing in regularity and in the way in which they arise. The modern realist, at all events, will not cavil at this interpretation. But while sensible things and images are primarily objects for the mind, the passions and operations of the mind are not, but are essentially states or acts of mind; and this distinction is of the essence of neo-realism. Berkeley, however, may not have meant to assert more in this opening paragraph than the plain matter of fact that the passions and operations of the mind are in some sense or other capable of being considered 'by reflection'.

However that may be, there is undoubtedly a serious divergence between Berkeley and the modern realists with regard to the interpretation of the operations of the mind. For the modern realist an act of cognition, or any other mental act, is a real entity having a distinctive subsistence. Berkeley's theory takes no account of this. He makes no attempt at classifying the operations of the mind and merely says that spirit has the power of willing, thinking and perceiving ideas. If willing, thinking and perceiving are therefore to be understood as operations of the mind, we have no more particular account of what they are, although, perhaps, we are entitled to conjecture that while these operations of mind, or some of them, are, strictly speaking, ideas of reflection, spirit itself, though known through reflection, is not an idea at all. We cannot, therefore, infer from Berkeley's explanations that there are such things as particular acts of mind, still less can we look for an explanation of their *esse*. His introspective analysis of the mind proceeds on quite different lines. "*Thing* or *being*," he says (307), "is the most general name of all: it comprehends under it two kinds, entirely distinct and heterogeneous, and which have nothing in common but the name, *viz. spirits* and *ideas*. The former are active, indivisible, incorruptible substances: the latter are inert, fleeting, perishable passions or dependent beings; which subsist not by themselves, but are supported by, or exist in, minds or spiritual substances." This is the sum of the doctrine of spirit which Berkeley, apparently, obtains through 'reflection,' and it is repeated with equal emphasis and greater detail in the *Hylas:* "I know what I mean by the terms *I* and *myself;* and I know this immediately or intuitively, though I do not perceive it as I perceive a triangle, a colour, or a sound. The Mind,

Spirit or Soul is that indivisible unextended thing which thinks, acts and perceives. I say *indivisible*, because unextended; and *unextended*, because extended, figured movable things are ideas; and that which perceives ideas, which thinks and wills, is plainly itself no idea, nor like an idea" (447-448).

It is very doubtful whether the former of these passages can be reconciled in any way with neo-realism, and it seems in hopeless conflict with the supposed denial, in § 49, that ideas are attributes of mind; for it asserts both that ideas are passions of the mind, and that mind is the substance of them. This question may be postponed for the moment, but it is clear, at least, that the new realist's analysis of act and object is very differently described in Berkeley's account of spirit. We may argue, indeed, that Berkeley's view of spirit agrees fundamentally with that of the new realists because of his insistence on the ultimate distinction, as a matter of analysis, between that which thinks and that which is thought: and that the discrepancy is only an unfortunate legacy of the Cartesian *Cogito* and of Locke's unqualified acceptance thereof, combined with an extremely meagre, and indeed untenable, doctrine of substance. But this exposition takes a great deal for granted, and seems particularly hazardous in view of a certain discussion in the *Hylas* which, at the beginning at least, has a very modern flavour.

This discussion (405-408) is too long to quote in full, and a summary must therefore suffice. "The sensation," Hylas remarks, "I take to be an act of the mind perceiving; besides which there is something perceived; and this I call the *object*. For example, there is red and yellow on that tulip. But then the act of perceiving those colours is in me only, and not in the tulip"; and Philonous appears to understand this statement in its modern sense. "If I take you right," he says, "you distinguish in every perception two things, the one an action of the mind, the other not . . . and this action cannot exist in, or belong to, any unthinking thing; but whatever beside is implied in a perception may?" He proceeds, however, to turn the edge of the objection by insisting that nothing except a volition can properly be called an act; and although Hylas does not scruple to accuse him of 'artfulness' at an earlier stage of this very discussion, he does not seem to find any lack of candour in the final definition of the meaning of an act. Philonous is therefore able to prove that neither *smelling*, nor *seeing*, nor *feeling pain*, nor *any other perception* are actions, since none of them is a volition, or in-

cludes any element of volition. All are equally passions or sensations in the soul.

It would be easy to lay undue emphasis on this passage; for Hylas was not enough of a prophet to see the uses that might be made of his distinction, and neither he nor Philonous seemed able to realise that an act of mind may be *adynamic* and neither active nor passive. Still the passage itself is noteworthy, and we might wish that Philonous had allowed Hylas to press his point a little farther. Granting that ideas are inert or passive, mere objects on which the mind can operate, what are we to make of perceiving, on on Berkeley's own theory, if the only possible activity be that of volition? Spirit, he tells us, is that which thinks, perceives and wills, and it is essentially an active subtance. Is the perceiving and thinking, then, passive as well as the idea, or is it not? To say that all perceptions are passive, and to cite as instances smelling, seeing and feeling seems certainly to ignore the distinction between perception and percept, the seeing and the seen. If ideas are passive because imprinted on our minds (*i.e.* on account of their origin only), is the perceiving of them also passive and also imprinted? And when we contemplate ideas which, like images, are summoned by our own acts of volition, what then? Are the images passive and also the imagining of them, while the creative volition alone is active: or is the imagining active as well as the volition: or are all three active: or is there really no distinction between imagining and image? Berkeley did not consider these questions, and naturally supplies no answer. But he certainly seems to be inconsistent in regarding perceiving as an operation of the active substance mind, and at the same time declaring that the seeing of the tulip as well as the shape and colour seen are passive and 'in the mind'. One wonders whether Philonous did not heave a sigh of relief when Hylas ceased to ply him with such very awkward questions.

Even if Berkeley's theory of spirit, however, is very different from the new realist's account of the mind, there may still seem to be sufficient agreement to make it possible to argue that there is no essential difference between the two theories with respect to the *status* of sensible things. The obvious objection that realism insists on the independence of such objects whereas Berkeley asserts that these are necessarily 'in mind,' may cease to be insuperable when the meaning of 'independence' and of being 'in mind' has been more fully considered. Neo-realists give somewhat different accounts of what they understand by the sensible world, but

these differences do not necessarily result from a different interpretation of independence. Indeed 'independence' need not mean more than the assertion that the object of a cognitive act is distinct from that act, given to it and not made by it, appearing as it really is and not clothed upon by the cognitive act itself. Independence, in this sense, seems to be fully consistent with Berkeley's system. It is compatible with the view that a percept, for instance, varies with each individual mind and with the same mind at different times, and thus seems to depend, and, in some ways, actually does depend, on the mind of an individual subject. What we perceive may be the joint product of an individual mind and some other cause, or, again, something in the specific constitution of each individual mind may have the effect of compelling every particular mind to select a slightly different object of perception from an unlimited array of possible sensibles. The new realist may welcome either of those alternatives, provided always that if the objects of sense are in some ways dependent on individual minds, they are not so dependent in so far as the act of cognition itself is concerned. And it is instructive to notice that both these alternatives may claim support in the *Principles*. The ideas of sense which we call things are certainly, on Berkeley's theory, joint-products of the will of God which imprints them and of the individual mind which accepts them passively (unless, indeed, the mind is so completely passive in this matter as not to count at all, which is very realistic indeed), so that they need not be actual except when they appear, and are actual just as they appear. But if it be maintained that such ideas (not all ideas, of course) must also have a more permanent existence than that of being the potential objects of divine volition and human acceptance, then Berkeley's theory that these ideas are known permanently by the divine understanding may be cited in support of this view without any apparent implication of any further assumptions that are inconsistent with the new realism.

It is clear, however, that the mental character of the direct objects of perception may be understood in a sense which is altogether inconsistent with any form of neo-realism, and one important problem is whether Berkeley's explanation of the way in which ideas are 'in mind' does or does not involve this sense. If the analysis of knowledge itself implies that the objects of knowledge, just because they are objects of knowledge, must themselves be regarded as parts, or elements or aspects, in the knowledge of them, then it is impossible also to hold that these objects are independent of

knowledge in any real sense. And similar arguments hold if the analysis, not of any knowledge, but of some particular kind of knowledge (*e.g.* sense-perception) is in question. If the new realist admits that in fact certain objects only exist when perceived, or are in some other ways peculiar to individual minds, he cannot regard the analysis of any form of knowledge as a proof of this. His theory of knowing or perceiving does not in itself imply any sort of limitation to the independence of the objects which are known or perceived, and dare not have such an implication. The limitations to the complete independence of the mind on the part of its objects, if they exist, must be due to quite special reasons, to which the character of the act of knowing is wholly irrelevant. As Berkeley never considered this question in precisely this form we can only guess at what he might have said regarding it.

It would certainly be a mistake to argue that Berkeley supposed every possible object of knowledge to be mind-constituted or mind-dependent just because it must enter into some relation with mind when it is known. There is no evidence that he believed that our own minds, or the mind of God, as we know them, are in any way constituted or modified by our knowledge of them. There is a relation in such cases and any object which is known is therefore in one sense relative to mind. But Berkeley has no consistent theory of relations, and we cannot maintain that he considered them merely subjective, although he certainly regards relative terms like great and small as subjective because relative (263). Accordingly, the fact of the existence of a relation need not be decisive in our interpretation of his meaning. But what of our knowledge of unthinking things, or ideas of sense? Is it part of the analysis of a knowledge of *them* that they are 'in mind' in a way that is inconsistent with neo-realism?

Berkeley frequently defines what he means by 'in mind' and 'out of mind,' and, on the whole, does so consistently. It is true that he sometimes shows a tendency to confuse this metaphorical 'inness' and 'outness' with a literal spatial interpretation. Thus he thinks it necessary to maintain that distance or 'outness' is never directly perceived (279-280), and in the *Theory of Vision* states explicitly that the primary and immediate objects of vision 'neither are nor appear to be without the mind or at any distance off' (150). It is hard to see why he should have gone to such extreme and (as most would think) absurd lengths had he not supposed that this extreme was implied in his theory; and it is plain that if ideas are extended at all it is irrelevant whether they are extended

in two dimensions or in three. In either case the extension cannot literally belong to that unextended thing which is the mind. 'In mind,' to be brief, cannot mean 'in the body' when the body itself is an idea among other ideas (421). But apart from these occasional lapses (if they are lapses) Berkeley consistently interprets 'inness' and 'outness' in a sense in which spatial implications are ignored, just as etymology is very properly ignored in the modern use of words like attention, apprehension, or combination. "Look you, Hylas," he exclaims, "when I speak of objects as existing in the mind, or imprinted on the senses, I would not be understood in the gross literal sense; as when bodies are said to exist in a place, or a seal to make an impression upon wax. My meaning is only that the mind comprehends or perceives them; and that it is affected from without, or by some being distinct from itself" (470). This passage explains briefly what Berkeley reiterates again and again. Ideas of sense (though not ideas of reflection or of imagination) are external to the individual mind in one way since they are caused by the will of the deity; but they are internal as they are perceived because, when they are perceived, they are the ideas of that particular mind, or belong to it.

If this explanation of the phrase 'in mind' means *only* that these ideas are perceived by the mind, then nobody ought to object to it, since no one in his senses can deny that ideas are perceived, and Berkeley asserts so frequently that this is the sum of his meaning that it would be very hard to maintain that his analysis of sense-perception, in itself, implies anything that the new realists are unwilling to admit. On the other hand it would not be very easy to show that his analysis does not conflict with theirs, especially in view of the parallel cases which he mentions to illustrate his argument.

Although Berkeley shows wonderful fertility, patience and resource in proving, expounding and defending his theory, he never conceals his belief that the issue itself is extraordinarily simple, and can be shown to be intuitively certain 'in a line or two'. This intuitive certainty, then, must be considered the ultimate foundation of his theory to the best of his knowledge and belief, and the phrase 'in mind' must be interpreted in the light of it. Have the new realists a similar intuition, or have they not? If they have, it is fair to claim that Berkeley agrees with realism in principle; if they have not, this claim must, on the whole, be disallowed, despite appearances to the contrary. It would still be true, no doubt, that many of Berkeley's statements

express all that the new realists desire or intend, and it would be possible to argue that the differences depend upon mere misunderstandings which subsequent reflection might easily remove; but the fact would still remain that part of Berkeley's expressed intention was incompatible with modern realism, and that this part must be considered fundamental.

What Berkeley proclaims as an intuitive certainty is, like most intuitions, expressed most clearly in its negative form. He argues repeatedly and emphatically that the *absolute* existence of sensible things is a manifest contradiction, a 'direct repugnancy'. Such things must be the ideas of a knowing mind, and cannot exist unless they are in such a mind. The new realist, on the other hand, seems to maintain precisely the contrary, for he asserts the independence of such things, and denies that the act of perceiving is in any way relevant to the question, whether or not, for other reasons, the direct objects of sense-perception exist in fact when not perceived. Is it possible to reconcile these views?

An intuition cannot itself be proved, and must either be accepted or rejected; but arguments about it are permissible both with a view to defining its scope and meaning and to inducing a readier acceptance of it. And the mention of analogous cases is the best way of securing these ends. This is the course which Berkeley pursues. He points out that the majority of 'ideas' are indubitably things which permit only of a mental existence. "That neither our thoughts, nor passions, nor ideas formed by the imagination, exist without the mind is what everybody will allow. And to me it seems no less evident that the various sensations or ideas imprinted on the Sense, however blended or combined together (that is, whatever objects they compose) cannot exist otherwise than in a mind perceiving them. I think an intuitive knowledge may be obtained of this, by any one that shall attend to what is meant by the term *exist* when applied to sensible things" (258-259). There is a certain difference, he admits, between those classes of ideas, but the difference is irrelevant to the issue. Ideas of sense are caused, in part at least, by something other than the mind, but their nature is not necessarily affected by their origin. "I say it is granted on all hands (and what happens in dreams, frensies, and the like, puts it beyond dispute) that it is possible we might be affected with all the ideas we have now, though no bodies existed without resembling them" (267). And the other distinctive peculiarities attaching to ideas of sense, such as their coherence, orderliness or intensity, are also irrelevant to the problem of the mental *status*

of all ideas, though they are important in many ways. Can this intuition, then, read in the light of these analogies, be accepted by the new realists?

It must be admitted that images are objects of the mind in precisely the same sense as percepts are; and the new realist therefore concludes that both are independent. Berkeley, on the other hand, concludes that because images are 'in mind' beyond dispute, percepts must also be 'in mind' after the same fashion. Is not this a plain difference, and one which depends on the analysis of knowledge? It certainly would be if the intuition referred to sensation and imagination as species of knowing, but the intuition, as is plain from the context, refers to the ideas, *i.e.* to the objects and to the meaning of *their* existence. And this may be enough to permit the abstract possibility of reconciling Berkeley's position with that of the new realists. At the same time we must also remember that if the intuition refers only to the characteristics of certain objects, the ideas of reflection are also stated to have these same characteristics, and, therefore, we would seem to be justified in concluding that Berkeley supposed it to be intuitively evident that ideas of sense are 'in mind' precisely as the passions and operations of the mind are, and from the same necessity. Now it is evident to any reasonable psychologist that feelings are 'in the mind,' because it is intuitively evident that they are 'of the mind'; but if ideas of sense are comparable to feelings in this respect, the principles of realism are directly controverted.

Modern psychologists distinguish feeling from sensation, and one of the principal grounds of distinction is that a sensation (or, more strictly, a sense-presentation) is primarily an object of cognition, while feeling, if it can be attended to, is not primarily such an object. It is a way of experiencing, not something experienced. But Berkeley was not a modern psychologist, though modern psychology is deeply indebted to him, and it would be unfair to read distinctions into his expressions which he did not explicitly realise, especially in view of the fact that he took but little pains to define what he meant by 'reflection' or the ideas thereof, and, indeed, scarcely did more than repeat what Locke had already said. At the same time we cannot ignore the passages in which he seems to identify feeling and sensation, and we cannot deny that the passivity of ideas, which is an essential element in his exposition of them, is most naturally interpreted to mean that they, like feelings and passions, are *passive states of mind*. Let us, then, consider these questions briefly.

As we have seen, Berkeley includes the passions and operations of the mind under the term 'idea,' as well as ideas of sense and images. Now the passions and operations of the mind are parts of the mind, and the inference would seem to be that sense-ideas and images are also parts of the mind, and that it is intuitively evident that all have the same kind of being. This inference may certainly be disputed on the grounds that Berkeley also asserts that unthinking things are in mind only in the sense that they can be contemplated by the mind, and that he need not mean more in his classification of ideas than that the passions can be attended to as well as sensibles and images, and that, when they are attended to, they show very similar characteristics. But if the inference may be disputed it is certainly suggested. Again we must remember that the essential similarity of sensation to certain forms of feeling is prominent in many of Berkeley's arguments. Philonous in his argument with Hylas begins by asserting that extreme heat is identical with extreme pain, and that pain is indubitably mental, and proceeds to apply this argument to cases where moderate pain or pleasure occur. The illustration is less important than it seems since *physical* pains and pleasures are in question, and these are manifestly organic sensations and not really comparable, except in their effects, to the *psychical* experiences which we also call pains and pleasures. They are bodily, and not mental except in the sense, if there is one, in which all sensibles are mental. But Berkeley, at least, did not contemplate this distinction, and the new realist must.

The same conclusion is suggested by the implications of the passivity of ideas on Berkeley's theory of them. It is true that this 'passivity' need not mean more and perhaps does not mean more than the assertion that these ideas are (1) neither created nor controlled by us, and (2) cannot directly affect one another. But the most natural interpretation is that ideas are passive states of mind, and 'in mind' as a passive condition of that substance; and that we attend to them in the way that we attend to any other states of mind. Such a view implies subjective idealism, and it is clear that Berkeley did not intend to be a subjective idealist, and was a very inconsistent one if some of his arguments can scarcely be interpreted in any other light. For that reason it is fair to emphasise those of his arguments and explanations which have a radically different tenour, both as regards his general theory of knowledge, and his theory of sense-perception; and some of these arguments have close

affinities to modern realism. But it is likely that he would have answered the realists much in the way that a distinguished opponent of realism has answered them. "When I am told that the content of sense or object of thought may therefore be something quite non-mental or even physical, I am, to speak plainly, inclined to feel myself the victim of sophistry. It seems obvious at first sight that a blue is as psychical as a pain or an inferential transition. And though you may argue at length that it is nothing but an external object, I feel all the time that I am being defrauded. You have put the vital character of a certain experience into what you call an act, and I admit that it is specially observable in connexion with a certain function. But now you tell me that the main thing in an object, what I value in it and what I want it for, is removed and abolished by the distinction, and the experience as such is left for dead."[1] I wish Berkeley had not meant this, for I should feel defrauded if it were so; but I am afraid he did, on the whole.

Accordingly, Berkeley's intuitive certainty that every idea must be 'in mind' implies an interpretation of 'idea' which is foreign to neo-realism; and, since both views depend upon a certain intuition of the nature of knowledge and of its objects, we can scarcely deny that there is an inconsistency between the two intuitions. Moreover, although Berkeley may not have been sensible of all the consequences of his theory, it is clear that he believed that ideas were 'in mind' because they were necessarily *in a substance*, and because spirit was the only possible substance in which they could be. He did not suppose, indeed, that this fact affected the content of ideas in any way, or was relevant to their being what they declare themselves to be, extended and movable objects to which the mind can attend; but he certainly asserted that mind was the substance of them, and that they were 'in mind' for that reason. His proof that ideas of sense cannot exist without a mind demands the assumption that they must exist in something, so that, if they did not exist in mind they would have no existence at all (260, 261). They require a *substratum*, and, being ideas, they cannot have an unthinking *substratum*. "It is acknowledged on the received principles, that extension, motion, and in a word all sensible qualities have need of a support, as not being able to subsist by themselves. Thus far it is agreed on all hands.

[1] Bosanquet, *The Distinction between Mind and Its Objects*, p. 30. "Non-mental," "external" and "physical" must be understood on a realistic analysis as referring simply to characteristics which directly appear in sense.

So that in denying the things perceived by sense an existence independent of a substance or support wherein they may exist, we detract nothing from the received opinion of their *reality*, and are guilty of no innovation in that respect. All the difference is that, according to us, the unthinking beings perceived by sense have no existence distinct from being perceived, and cannot therefore exist in any other substance than those unextended indivisible substances, or *spirits*, which act, and think and perceive them" (308). Minds are the substances of all ideas.

It is a far cry from this to modern realism. In the modern analysis these 'ideas' are themselves substances, or parts of substances, and not only can, but do, exist in their own right; and Berkeley never seriously realised this possibility, though some of his expressions, taken by themselves, appear to point in this direction. We may argue, indeed, that this portion of Berkeley's theory is inconsistent with his denial of paradox, and his belief that he was interpreting the mind of the vulgar. But we cannot deny that such was his theory, nor that it was the principal basis for his certainty that ideas could not be in matter, *i.e.* that the philosopher's account of matter implied that an unthinking substance could *have an idea*.[1] And it is a plain consequence that Berkeley was not a realist in the main outlines of his theory. Are we to suppose, then, that his explicit denial that the objects of sense-perception are *modifications* of the mind is simply an inconsistency which he had not recognised, or desired to conceal? It is an inconsistency, though the inconsistency is not by any means so flagrant as it looks, when the context is considered. The concluding sentences of the paragraph where this denial occurs run as follows: "As to what philosophers say of subject and mode, that seems very groundless and unintelligible. For instance, in this proposition 'a die is hard, extended and square,' they will have it that the word *die* denotes a subject or substance, distinct from the hardness, extension and figure which are predicated of it, and in which they exist. This I cannot comprehend: to me a die seems to be nothing distinct from those things which are termed its modes or accidents. And to say a die is hard, extended and square is not to attribute those qualities to a

[1] *Cf.* Reid, *Inquiry* (Hamilton's edition, p. 131): "Their paradoxes were only an abuse of words; for when they maintain, as an important modern discovery, that there is no heat in the fire, they mean no more than that the fire does not feel heat, which everyone knew before". Also *Intellectual Powers* (*ibid.*, p. 316): "The philosopher says there is no heat in the fire, meaning that the fire has not the sensation of heat".

subject distinct from and supporting them, but only an explication of the meaning of the word die." Berkeley's meaning, therefore, is that ideas are not modes of mind, because a mode is itself unintelligible, and the corresponding passage in the Hylas is readily interpreted in the same way. The so-called modes of a die are just the die as it is, and nothing is gained by calling them modes. Ideas are not the modes or attributes of anything, because there are no modes or attributes; and therefore they are not modes or attributes of mind. It follows that he should have meant no more by calling the mind a substance than the meaning he supposed he could obtain through introspection. But if he had realised this fully his argument would have taken a different form.

It is true that any theory which maintains that ideas require a mind to be their substance and support, and yet are not 'modes, or attributes, or properties' of that substance is expressed in a peculiar fashion. It sounds like an assertion that such and such an article was not rejected by the editor of *The Economist*, but that the editor of *The Economist* regretted he was unable to make use of the communication. But Berkeley never attempted to think out the implications of substance, and it does not require a portentous strain on the imagination to suppose that his colleagues in Dublin, when once they had grasped the notion that ideas, on his theory, were modes of mind and not of matter, were so crabbed, stubborn, and scholastic in their objections that Berkeley, in self-defence, refused to argue in terms of mode and subject at all. If he had seen that the question was not merely verbal he might have remodelled his theory, somewhat in the direction of the new realism.

III.—THE PLOT OF PLATO'S *REPUBLIC*.

(*Continued from p.* 176.)

By P. S. Burrell.

VII.

We must now return to Plato's actual doctrine as regards the analysis of society. He accepts the criterion, accepted also by the sophists, that that conduct is to be chosen which enables a man to do well and to fare well. He takes the point of view that fundamentally man seeks what is best for himself: that man is a bundle of wants which he desires to satisfy as well as he possibly can: that his good is the satisfaction of ἐπιθυμία, and that he wants to have the greatest amount of good possible. How then is this programme of life to be best realised? The assumption is that human nature is wholly absorbed in the satisfaction of the most imperious needs, and, in the first instance, in the satisfaction of those needs which are most elementary, and most fundamental to his life—food, clothing, shelter. And it must be remembered that the claims of the *individual*, according to the sophistic point of view, are paramount. What each man has to decide is what is the best line for *each individual* to take for *himself* independently of all other considerations. Each man must be regarded as dominated by one single principle, the desire to do absolutely the best for himself. With such assumptions to start from the intrusion of any ideal, or altruistic elements, existing alongside of self-regarding impulses, would have been obviously out of place. The sophists had taken their stand on self-love pure and simple, and Socrates must do the same. As Glaucon had said, let us put on every man's finger the ring of Gyges, and see where it will take him. We shall see every one taking precisely the same road. The sophist said all would be found to be pursuing πλεονεξία. Socrates similarly assumes that every one is pursuing the same end, but his business is to show that it will lead men in a direction diametrically opposite to that declared to be the only one by the sophists. By the

enunciation of his principle (*οἰόμενος αὐτῷ ἄμεινον εἶναι*, p. 369) Socrates says in effect, Let us regard each man as the incarnation of self-love, or selfishness, in the sense of being desirous to satisfy his own individual wants in the best conceivable way, and let us see where this principle will take him, what will 'become' of him (*cf.* the method of looking at the *genesis* of society (*γιγνομένην πόλιν*, p. 369). What 'becomes of him,' as Socrates and every one else must admit, is a state of community or society (*γίγνεται τοίνυν, ἦν δ' ἐγώ, πόλις, ἐπειδὴ τυγχάνει ἡμῶν ἕκαστος οὐκ αὐτάρκης, ἀλλὰ πολλῶν ἐνδεής· ἢ τίν' οἴει ἀρχὴν ἄλλην πόλιν οἰκίζειν; οὐδεμίαν, ἦ δ' ὅς*, p. 369). Human nature, being what it is acknowledged to be by every one—and the universality of the admission seems to be suggested by the words *ἡμῶν ἕκαστος*, for the truth is recognised by every one who will adopt the method of Socrates, reflection and strive to 'know himself'—these are the necessary results. Given the conditions, the result must inevitably follow.

Socrates then, starts with universal principles as his *ὁμολογούμενα*, which are assented to by his opponents and indeed by every one else who will take the trouble to reflect. Man has many wants; he cannot satisfy them properly by his own unaided exertions. If he is not to leave them unsatisfied, his only alternative is to supply them by somebody else's exertions. But others will not work for him, unless he also works for them. Further, when a number of persons are working together to supply the general needs they will achieve their end best, if their activities are well organised, *i.e.* if each puts forth his best efforts in the best way. A very little experience shows that a man will produce more work, if he sticks to one kind of work; that practice will facilitate his work as well as improve it. He will produce more and better work and with greater ease by so doing. Besides, different persons are naturally endowed with different capacities. One man can do one kind of work better than another. The condition of success for the most elementary kind of society conceivable is that each should labour for all, and that it is only in a society thus organised for mutual help that each does the best for himself. In any other way, there is less produced, it is of an inferior quality, and it is obtained with a greater expenditure of labour. Consequently, the amount available for the satisfaction of any given individual's wants would be less than it might be. Society then is a coming together and a working together with a view to the satisfaction of each individual's wants in the best manner.

In what particular way does society confer this benefit? Thus. A must not only work for himself, but must also work for B, C, D, . . . and similarly B must work not only for himself but for A, C, D . . . as well, and so on *ad infinitum*. But in so doing, it must be noted that A, B, C, etc., are not making *sacrifices*, each of his individual welfare. Each is promoting it in the best way possible. Each is doing what he thinks best for himself. It is only by working for B, that A is working in the best manner for himself, and *vice versa*. In fact, to supply his own wants as well as he can, a man must also supply the wants of others as well as he can. The best way of working for yourself or your own interests, is to work for others and their interests to the utmost of your power. This, one may say, is the paradox of society, the truth of which is obvious on the most elementary plane of social order. But it is not so obvious, as society develops in complexity; and the object of the *Republic* is to show that it is nevertheless true all through, right up to the highest plane, and to bring the truth into clear light. Give and take, it is argued, is the essence of society; and this exchange is recognised to be good—the good of every individual. One man exchanges with another, because, as Socrates says, "he thinks it is better for *himself*" (p. 369). Exchange—mutual help,—mutual supply of needs—is the good of all and the good of each: and these goods cannot be disentangled. Thus the idea or principle of good is operating at the beginning of society, is, in fact, creating it, making it 'become' (*cf.* γίγνεται πόλις). Society, *i.e.* the satisfaction of individual good, comes into being by partaking of the idea or principle of good, and it comes into being in the best possible manner, *i.e.* is ideal, or 'natural' (κατὰ φύσιν), if it participates in the idea of good in the highest degree, *i.e.* if the principle of good is absolutely unimpeded in its operation.

Again the resulting good, in which the interest of each is absolutely *identical* with the interests of every one else, in which each secures his own profit by securing the profit of all others, depends on the continuous and unimpaired operation of an all-important principle, *viz.*, that each man must do the kind of work which he alone can do or which he can best do. The excellence of the good which results from the co-operation of individuals is exactly proportioned to the degree in which this principle is put into practice. If it is observed to the full, an ideal, perfectly 'natural' state of things comes to pass. If it is violated, the excellence of the state diminishes according to the degree of its violation; if it is not observed at all, society dissolves altogether. After delineat-

ing the state which would grow up according to nature if the individual's search for his own best good were conducted under the direction of the principle that each should do his own proper work, Socrates proceeds later to describe the principal deviations or perversions which result from departing more and more from the principles of 'nature'. When the state has reached its full development, this principle is recognised as the principle of justice, the working of which has been observed in the concrete life of the state. And so justice turns out to be the principle of life and health and strength in the social organism. And then it becomes ridiculous to ask whether justice is good and profitable. You might as well ask whether health is good and disease evil. When the justice which animates the ideal state—the state which would result if every one whole-heartedly and with clear insight pursued his own best good—is seen to be "beautiful and strong," the problem of making a choice between it and injustice disappears.

These then are the first principles, the *ἀρχαὶ*, with which Socrates starts: first, that society comes into being, because each one 'thinks it is better for himself' to co-operate with his fellows; and, secondly, that each man shall do to the best of his ability the work for which he is best fitted by nature. If he can secure acknowledgment of them, and prove that they lead to conclusions precisely the opposite of the views held by his opponents, he must win his case. All depends, therefore, on the beginning, and it is desirable to show how subtly he has turned his enemies' guns on their own position. It might be objected that his argument has only subjective validity, being an argument *ἐξ ὁμολογίας* and that such arguments have cogency only for those who make the admissions; that they possess only the validity of the *argumentum ad hominem*. But the objection falls if the things admitted are things which every one must admit, are, in fact, first principles, which are self-evident to all upon reflection. Now what Socrates has done is exactly this, that he has adopted as his starting-point principles or truths which every one would recognise. The criterion *πᾶς ἄν εἴποι* is at the root of his 'dogmatic' constructive argument no less than it was at the root of his destructive criticism of the moral formula of Cephalus (p. 331). But his argument has special cogency against his sophistic opponents, for he has adopted, though he has turned it to very different account, the very doctrine of self-love and self-interest, which was the sheet anchor of ancient sophistic ethics.

VIII.

Having shown that Socrates has obtained a firm principle for the foundation of his argument, let us now observe how he uses and develops it. We shall see that the principle is responsible not only for the very existence or beginning of society, but also for its expansion and development, and that it is always resorted to as the means of overcoming the objections that may be raised at important stages of the argument. A summary of the various applications of the principle will serve to make this clear.

(1) Through its operation the original city of three or four men expands into the *ὑῶν πόλις*. Socrates then stops and reviews the kind of life obtaining in such a community, with a rudimentary, healthy, animal existence. Glaucon is not satisfied with such a state, but he has nothing to say against the principle which brought it into being, and which he tentatively identifies with justice. But the only way to get beyond the uncivilised state is by a further development of the principle. Just as society begins because man has elementary wants to be supplied, so society advances because he has further wants. To reach a more civilised condition it is necessary to fill out the city with more callings and professions. Thus the transition to the *τρυφῶσα πόλις* is effected (p. 373).

(2) But such a city will get involved in war through being compelled to take a slice of territory from its neighbours. This will bring the states into conflict, and for self-defence another addition to the population—an important new class—is required. The idea of a professional army, specially trained to fight and defend the country, takes Glaucon by surprise, and he asks if the citizens will not be sufficient and will not be able to fight their own battles themselves. Socrates disagrees, a lengthy passage is devoted to proving the necessity of a special class and the way he does so is to bring up his *ἀρχή*, and show that it is all the more important to follow it, just because of the unique value of the guardian class. We see then that the state can neither spring into existence, nor maintain itself, nor continue growing, unless the principle, which is ultimately revealed to be justice, operates. The state, however, must be considered not only in its internal, but also in its external relations, and of course its internal growth necessarily affects its external relations. And it is found that the state cannot preserve its life from external injury any more than it can maintain its internal health, without the application of Socrates' first

principle. Hence the ἀρχή, pursued to its logical consequences, calls into existence the distinction of classes, more especially the fundamental distinction of (1) the ruled and (2) the rulers.

This passage furnishes a good example of the method of Socrates and the mastery he secured over his opponents by obtaining their acknowledgment at the start of principles which they cannot gainsay. All that Socrates has to do is to reveal to them the consequences which they have thereby implicitly admitted also. As soon as they object to an application of the ἀρχή which sounds at first sight novel or paradoxical, Socrates casts it in their teeth, and makes them submit. Thus when the city goes to war, a new want arises, *viz.*, defence against the enemy. How then is this to be supplied? Exactly as before. A special class of skilled defenders must be formed. Otherwise you contravene the principle, which is so clear in the case of a simple and elementary κοινωνία, that a cobbler must cobble and not stray beyond his last. On precisely the same grounds, a guardian must guard and do nothing but guarding. If he has other irons in the fire, if he lapses into a busybody, the city will be unable to resist attack and expose itself to general disintegration. So then Socrates deals with the guardians precisely in the same manner as he dealt with the husbandmen, the shoemakers, and the builders in the first nucleus of the state.

Meanwhile the importance of the principle becomes clearer as the city develops in complexity. Considering the importance of the business of self-defence and rule, it is of the greatest moment that the guardians must stick exclusively to their duties; and in order to avoid any mistakes it is as important to select them as to train them. For what is the alternative? The city enters on the road to ruin. To find what we want, we must know what to find. And so the question arises, What exactly is a guardian, strictly so called? What is the real meaning of the word? What sort of nature and character should a guardian have, if he is to do his proper work? Clearly, therefore, the long discussion in the education of the guardians is no mere digression, but a direct and necessary consequence of the ἀρχή originally admitted. It is a mistake to suppose that the rest of the *Republic* is little better than a framework for a theory of education. The latter occupies a large part of the work, because the sophistic theory of politics and morals involved the all-important question of the right relation between the ruler and the ruled—in other words, the question of the

right use of power and the relations between might and right. And this question cannot be decided unless it is determined what sort of person a ruler ought to be—what 'ruling' means in a πόλις κατὰ φύσιν οἰκισθεῖσα. The answer to the question is an integral portion of Socrates' constructive theory, and accordingly furnishes him with the opportunity of developing the ideas which he only hinted at in Book I., in repudiating the notion that the function of the ruler is to be a wolf in the fold and to fleece the sheep (p. 374).

(3) The training of the guardians is fairly plain sailing at first, being such as is inevitable for those whose philosophic nature and θυμός are to be developed in due proportion in the early stages. But a difficulty arises when the stage of literary training as such is reached. The question is whether imitative literature is to be allowed to exercise influence upon the guardians. And the answer is found by applying the same principle. "We must go where the wind of the argument carries us. Does not the answer follow from what we have said already, that each man can practise well one profession but not many, and that if he attempts more and meddle with many, he will fail in all to attain creditable distinction." "The same man cannot imitate many things as well as one" (pp. 394-397).

(4) Similarly the principle is applied to the question of doctoring (p. 406), but perhaps (5) its most impressive application is at the end of Book III., where the special manner of life of the guardians is described, and at the beginning of Book IV., where the objection is raised that the guardians cannot be happy, because, though omnipotent, they do not use their power for their own selfish aggrandisement. At first sight, and in the abstract, the objection might well seem serious; but Socrates has no difficulty in disposing of it, and he does so simply by reminding them that they have already admitted the principle that each man has a special function, a rule to which the guardians can constitute no exception. If the principle holds good once, it must hold good always. Unless, therefore, the objectors are prepared to pull their definition of guardianship to pieces, they must drop their objection. If they are prepared "to abide by their admissions," the objection falls to the ground self-condemned as inconsistent. There could not be a better instance of the method of definition and general notions, ascribed by Aristotle to Socrates. It is nonsense, Socrates seems to say, to define and then to tear your definition to pieces. That would not be "playing the game" (p. 421).

(6) Next the principle is applied to justify the transfer of

children from one class to another, in order to preserve the unity of the state. For "the other citizens as well as the guardians must be set each to the task for which nature has fitted him, one man to one task, that each citizen doing his own peculiar work may become one man and not many and thus the whole city may grow to be not many cities but one" (p. 423). Thus the principle which creates distinct classes in society contains in itself the cure for the evils to which class distinctions, if absolute, would give rise.

(7) And before long the principle is expressly identified as justice itself, when at last the latter is discovered. "For at the beginning when we were founding our city the principle which we then stated should rule throughout was, I think, justice or at least a form of it. We stated surely and, if you remember, have often repeated our statement that each individual should pursue that work in this city for which his nature was naturally most fitted, each man doing one work (p. 433 A). So far then from 'nature' prescribing injustice as Thasymachus and the sophists and the multitude held, it does precisely the opposite; it prescribes justice or the universal rule of action (ὃ γὰρ ἐξ ἀρχῆς ἐθέμεθα δεῖν ποιεῖν διὰ παντός, ὅτε τὴν πόλιν κατῳκίζομεν, τοῦτο ἐστιν, ὡς ἐμοὶ δοκεῖ, ἤτοι τούτου τι εἶδος ἡ δικαιοσύνη, p. 433). So far from every one following the path of the unjust, if full liberty were given to pursue his own good to the uttermost, they would do exactly the opposite. And the identity of the original principle of specialisation of function with justice is emphasised again in page 441. "But surely we have forgotten that the city was just by reason of the three classes within it each doing their own work."

(8) When the analogy of the state and the individual is applied, the principle is then shown to operate in every individual soul, for "The just man does not allow the different principles within him to do other work than their own . . . thus moulding the many within him into one" (p. 443).

(9) When the proper position and functions of women come up for determination, care is taken not to misapply the principle, at any rate according to Plato's conception (pp. 453-454).

(10) Finally the principle is applied to justify the obligation of the guardians to bear rule in Book VII., which echoes in its very language the twin principles propounded respectively in Book II. and Book IV.; first that the principle leads to individual happiness; and secondly that it leads to the common happiness. "You have forgotten again that it is not the law's concern that any one class in a state should live

surpassingly well (*cf.* p. 421). Rather it contrives a good life for the whole state, harmonising the citizens by persuasion and compulsion and making them share with one another the advantage which each class can contribute to the community" (*cf.* p. 369).

This summary of the principal applications of his *ἀρχὴ* at important stages of the argument shows that Socrates in this constructive part of the dialogue is only following out the principles on which he insisted in Book I.—the critical part of the dialogue, and which he upbraids Thrasymachus for violating, *viz.*, that argument is impossible, unless people are prepared to stick to their admissions. Socrates, in fact, thoroughly endorses by anticipation the epigram of Talleyrand. "I do not ask that my opponent should be of my opinion; but I may fairly expect him to be of his own."

Having considered the way in which Socrates finds his first principle and the use which he makes of it, we are in a position to appreciate the skill with which he wins the victory over the champions of sophistry. They had said in effect: "Dig down to the real nature of the individual, of any and every individual; tear off every rag of convention and tradition, and you will find him exactly like Gyges. He will turn out to be the incarnation of selfishness, and ride roughshod over his fellows with brutal cynicism. Released from the bondage of convention, he will no longer act under compulsion like a slave, but boldly perform what he wills freely as his good" (*ἐπ' αὐτοφώρῳ οὖν λάβοιμεν ἂν τὸν δίκαιον τῷ ἀδίκῳ εἰς ταὐτὸν ἰόντα διὰ τὴν πλεονεξίαν, ὃ πᾶσα φύσις διώκειν πέφυκεν ὡς ἀγαθόν νόμῳ δὲ βίᾳ παράγεται ἐπὶ τὴν τοῦ ἴσου τιμήν*, p. 359), and again, *οὕτω δὲ δρῶν οὐδὲν ἂν διάφορον τοῦ ἑτέρου ποιοῖ ἀλλ' ἐπὶ ταὐτὸν ἴοιεν ἀμφότεροι· καίτοι μέγα τεκμήριον ἂν φαίη τις ὅτι οὐδεὶς ἑκὼν δίκαιος ἀλλ' ἀναγκαζόμενος, ὡς οὐκ ἀγαθοῦ ἰδίᾳ ὄντος, ἐπεὶ ὅπου γ' ἂν οἴηται ἕκαστος οἷός τε ἔσεσθαι ἀδικεῖν, ἀδικεῖν* (p. 360). And Socrates replies: "You have appealed to nature. To nature I will go. I do not agree with your account of what goes on in the breast of every individual or what would go on there in certain hypothetical circumstances. And as long as we try to decipher the small indistinct letters of the individual soul, we shall never agree about their interpretation. We shall be driven to and fro in the misty region of subjective empirical psychology. We must make our appeal to the large clear writing which we can all decipher, the meaning of which we must both acknowledge, because they are clear for all to see who will look steadily at them. In the sphere of conduct you place all individuals under one category without distinction. Very well, let us examine the motives

of all individuals, and see what they must do if they follow their nature without wavering. You have examined the abstract individual; but we ought to examine him in his concrete situation. We never find the individual except as a member of a *κοινωνία* or *πόλις*. This is the permanent and fundamental truth about human nature. We have then to discover what this great fact means. To solve the psychological problem—what is the natural, permanent, fundamental motive of the individual, we must not be satisfied with subjective psychological analysis of human character, but must study mankind in the mass, and drag to light the meaning of this great fact of the *κοινωνία*. Society is not an arbitrary institution forced upon men, which they can get rid of, if they like; it is something which *naturally* arises in response to the desire of each individual for his own good. That is the essential fact about the individual, and if we follow out its implications faithfully, we shall come to the real truth about human nature. Having thus secured from his opponents the admission of a principle which implicitly destroys their psychological and moral theories, he has so to speak captured his enemies' guns, and turns them upon him, by revealing to them step by step the consequences of their original admissions. The *ἀρχή* having been once embraced, the sophistic champions are helpless before him, they are kept perpetually on the run, and driven, in the Platonic phrase, as irresistibly as a ship before the breeze.

We are also in a position to see the error of Gomperz's view that the development of the city of pigs in the *δευτέρα πόλις* is a transition from 'what is' to 'what ought to be'. Plato's *Republic* does not begin as a picture of the actual and then by some mysterious and illegitimate process take on the colours of the ideal. It is ideal all through from beginning to end. It represents what would happen, what would become of mankind, if everybody sought his own good with complete singleness of purpose. The development of the commonwealth which he portrays is the evolution of a simple ideal or 'natural' state into a more complex ideal or 'natural' state; it is the growth of the embryo into the mature organism, the principle of life remaining identical from the first stage to the last. There is no wavering in Plato's point of view, as Gomperz's criticism seems to suggest. Just as the fall of a pebble into a pond produces an ever-widening circle, so the principle of justice, which generates society, gradually spreads it over a wider area. But as in the former case the principle of circularity remains the same, no matter how extensive the circle ultimately becomes, so the principle of justice remains

unchanged, no matter how extended becomes the sphere through which it operates. The state, as already observed, is ideal throughout, just because the principle which it exhibits is a *natural* (*κατὰ φύσιν*) principle. It represents what society is in itself, in its idea, or real nature, what the association of individuals must develop into, if the principle of its being and life is allowed unimpeded exercise. It is in effect the working out or realisation of an idea, in the Platonic sense, as the cause of existence, the state being really a state in proportion as it is a complete or perfect (*τέλειος*) expression, participation or imitation of the ideal principle. Socrates was challenged to prove the superiority of perfect justice and in order to do so he describes a perfectly good state (*τελέως ἀγαθή*). Now a thing is good if it fulfils its function well, and accordingly a perfectly good state is that which fulfils its function best. Socrates must therefore, according to the terms of the argument, portray a society which is the perfect and absolute embodiment of the social principle —justice. The final standard must be ideal, anything else would either involve the operation of another principle alongside of the social principle or, which comes to the same thing, a failure of justice, a deviation from it or the negation of it. It follows accordingly that injustice comes into being when justice is violated or fails to exert itself, as is shown later on, and degrees of injustice correspond exactly to degrees of departure from the social ideal, which is the manifestation of justice. Whereas in the just state the pursuit of individual good and the good of others are absolutely identical, in the unjust state there arises an antithesis between these two goods, which goes on ever widening until the principles of 'nature' become practically extinct.

The sophistic appeal to nature has, therefore, turned out to be a double-edged weapon. It was assumed that nature if once it can be truly revealed, must be followed, because the ways of nature must be right, and because man must obey his nature so soon as he sees what it is. It was assumed in short that the discovery of what man is by nature settles the question of obligation. In this attitude, the sophists were in hearty agreement with the dictum of Bishop Butler: "Your obligation to obey this law is its being the law of your nature" (Sermon III.). Hence they are left speechless, when Socrates, so to speak, ironically asks them: "But what if the law of your nature, as we have proved by principles which you adopt yourselves, turns out on strict examination to be precisely the opposite of what your superficial analysis makes it out to be?"

In the history of moral philosophy the task of the moralist has usually been to attempt the reconciliation of opposing principles, *e.g.*, egoism and altruism, conscience and self-love, duty and pleasure, or honour and utility, or whatever they may be called. And in the actual experience of life, there does seem to be a struggle between such principles. But Plato reminds us by his investigation into the nature of justice, that there are not two principles in the sense of independent forces, one of which is to obtain the mastery; but that there is one principle—justice—which is either realised or falls short of being realised; that moral defeat is moral defect; that moral delinquency is deflection from the moral standard, that injustice is simply the negation of justice, and its existence is equivalent to the non-existence of the latter—the being of injustice is the non-being of justice. In the real ideal world, therefore, the world of 'nature,' the world as it ought to be, there is nothing to reconcile; there is merely the unimpeded operation of a single principle, the principle of justice, 'the doing of one's own things' by every single individual, the fulfilment by each of his own real nature. It was therefore not without a touch of irony that Socrates suggested at the commencement of his exposition: "If in our argument we were to watch a city in the making, should we not see its justice and injustice in the making also?" For as long as you follow out the constructive principles of society, 'you can never find anything but justice only: you can only find injustice when there is a falling away from these principles: Injustice appears not in the *γένεσις*, but in the *φθορά* of society. Goodness is the *prius*, and evil can only be recognised by contrast with the good.'

There is, moreover, another opposition which Socrates shows to be a mere illusion. The Sophists made a sharp antithesis between *φύσις* and *νόμος*. The former, they urged, made people seek *πλεονεξία* as their good, and every one would follow the road to it, if law did not compel them to turn out of the way (p. 359). Injustice, therefore, was what every one would will to do, if he had the power to act without any fear of public opinion, whereas justice would never be done willingly by any one, but only under compulsion because it was not his own private good but other people's good (*οὐδεὶς ἑκὼν δίκαιος ἀλλ' ἀναγκαζόμενος, ὡς οὐκ ἀγαθοῦ ἰδίᾳ ὄντος*, p. 360). What Socrates has to show, then, is that in the just man there is no opposition between free will and necessity, between what he must do and what he freely chooses. And he accomplishes this quite simply,

with the approval of the company, at the very commencement of his inquiry. Man is compelled to form a state or society, in order to supply his needs. This is what he *must* do, and this means that every one is under an obligation to share the products of his own labour with every one else. But such a proceeding is not irksome to him; for this is just what he thinks best for himself. It is a course of action which, every one would acknowledge, any and every man with full knowledge of the situation, as described in the account of the πρώτη πόλις, would deliberately and willingly adopt as the best. And not only so, he recognised that for complete efficiency and happiness for both himself and his fellows it is not any sort of work which he may arbitrarily select that he must do, but the work for which he is fitted by nature. It is justice, therefore, not πλεονεξία, which, if a man had full liberty of action to do exactly as he thought best, he would practise both by the necessity of his own nature, and with absolute free choice. Justice, accordingly, is no mere subjective thing, but belongs essentially to the objective order of things. It is something which belongs to and *is determined* by the nature of things; and at the same time no less something which the individual himself determines of his own free will to do. Justice, one might say, is the faculty (δύναμις in Glaucon's language) by which a man exercises the talents with which he has been gifted by nature, and the use of his talents is not a burden, but something which he likes and wills to do. In the moral sphere, then, necessity is perfect freedom. This truth, which is implicit in the first admissions in discussion, completely undermines the antithesis that lies at the bottom of the sophistic moral theory. So simply and clearly does Socrates set forth the meaning of self-determination.

IX.

At the beginning of our inquiry it was pointed out that for various reasons the essential unity of the *Republic*, alike as a work of art and a work of thought, had escaped the notice of a number of critics. Our aim was to demonstrate its essential unity and to show that the search for justice necessarily involved the delineation of an ideal state, and that these two things indicated no wavering in working out a design but are really one and the same problem. Now one reason why the unity of the plot was missed is the inability on the part of some critics, at least, to understand Plato's conception of justice. It seems worth while, therefore, at

this point to illustrate such misrepresentations, and state what we conceive to be the true account of the matter. Considering the frequency and the emphasis with which Plato strove to make his conception absolutely clear and definite, it is certainly remarkable that he has been so seriously misconstrued. On page lxiii of his introduction to the dialogue Jowett makes the following observations:—

> Each of the first three virtues correspond to the three parts of the soul and one of the three classes in the state, although the third, temperance, has more of the nature of a harmony than the first two . . . and so far from justice remaining over when the other virtues are eliminated, the justice and temperance of the *Republic* can with difficulty be distinguished. Temperance appears to be a virtue of a part only, and one of the three, whereas justice is a universal virtue of the whole soul. Yet, on the other hand, temperance is also described as a sort of harmony and in this respect is akin to justice. Justice seems to differ from temperance in degree rather than in kind; whereas temperance is the harmony of discordant elements, justice is the perfect order by which all natures and classes do their own business, the right man in the right place, the division and co-operation of all the citizens. Justice, again, is a more abstract notion than the other virtues and therefore from Plato's point of view the foundation of them, to which they are referred and which in idea precedes them.

Here we have the following errors: that the three virtues correspond to the three parts of the soul; that there is a confusion in Plato's mind between temperance and justice; that justice, because more abstract than the other three virtues, is therefore the foundation of them.

Gomperz, again, is of opinion (*Greek Thinkers*, vol. iii., p. 75) that "the boundary between temperance and justice is blurred almost beyond recognition, and that the latter virtue tends to be confused with virtue in general is a defect of logical rigour plain for all to see"; and he considers this defect to be closely bound up with the still deeper fault of the whole investigation, the insufficient severance of individual from social ethics, and "accordingly the true content of justice—the sum of the demands which society makes upon us—a concept which has nothing in common with that of individual psychic hygiene—is sometimes passed over in silence, sometimes introduced without justification".

Such are the conclusions arrived at by critics who refuse to take Plato at his word or suppose that he did not mean what he has said in perfectly clear language. A careful reading of Plato shows quite clearly that there is no confusion at all between temperance and justice. The former certainly extends more widely than wisdom and courage, being spread through the whole state, and not residing in any particular

part (p. 432 A), and consists in a concord (ὁμόνοια) of opinion between the "naturally worse" and the "naturally better" as to which should rule both in the city and in each individual. Nevertheless it is quite distinct from justice. That there is a mutual agreement, *e.g.* between a ship's captain and his crew, that the former should command and the latter obey his commands, is a quite different thing from the understanding that each member of the ship's company, whether captain or sailor, shall each do his own work as well as he can. The power or principle by which each can do so is justice, and is naturally prior to a state of concord between the 'naturally better' and the 'naturally worse' classes. It is true that it comes last in the order of discovery, like all first principles, but it is prior in the order of nature, and it is therefore simply putting the cart before the horse to say, as Pater does, that justice "supervenes" on the other three virtues. So far from doing so, it is their foundation or presupposition. As Plato says expressly, it makes them possible. It is "the virtue which enabled all of them to find a place in the state and, after they have appeared, preserves them so long as it is present in the city" (p. 433). Moreover, it is present "in every child, woman, slave, freeman artisan, ruler and ruled, making each do his own work and not be meddlesome" (p. 433). This account agrees exactly with the account of the ἀρχὴ which we have attempted to give in what has preceded. This principle is present from the very beginning, and most emphatically is so in that "innocent world," the city of pigs, where Pater fails to find it, and it is because it is there that that rudimentary state can either be at all or develop into a more complex, fully organised state with the other virtues differentiated and manifest It is the root of which they are flower and fruit. Unless there were a steadily increasing stream of tradition in favour of all men doing their own work, there could be no possibility of the differentiation into separate classes exhibiting appropriate forms of virtue and mutual concord. In fact, society can never organise itself, unless it first possess the principle of organisation. It can never become perfectly good (τελέως ἀγαθὴ or ἀρίστη, p. 434) in its mature development, unless it starts with being good in its simple, embryonic state. It cannot end well, unless it also begins well. It is, in fact, absurd to confuse justice with temperance or to think of it as 'supervening' on the other virtues. For the structure of an organism must first be differentiated into separate organs together with the specialisation of functions, before the question of either co-ordination or subordination,

or, for that matter, insubordination, can arise. You cannot have temperance, *i.e.* the concord between the higher and the lower classes, till both have been generated, and they cannot be generated except by the operation of the principle of justice—" the power of each doing his own work " (p. 433) —which therefore " literally," as Plato says, " makes the other virtues possible ". To confuse temperance and justice is, in short, equivalent to confusing its products with the principle of development.

Justice, then, is logically and naturally prior to the other three cardinal virtues—the primary, fundamental, and universal principle. It is, however, also, from another point of view, the crown of all the virtues, the highest of them because it includes them all. Not only does it make them possible, but its full worth does not become evident till it has brought them into existence. In the rudimentary state we have only an image or faint outline or shadow of justice (εἴδωλόν τι), but in the finished state—κατὰ φύσιν οἰκισθεῖσα—we have the finished picture in all its fullness and detail. And the same thing occurs in the case of the individual. At the lower limit there is the producer performing the function for which he is marked out by nature, and so producing the best possible both for himself and his fellow-labourers. At the upper limit we have the picture of the just man in his complete development.

> The just man does not allow the different principles within him to do other work than their own, nor the distinct classes in his soul to interfere with one another ; but in the truest sense he sets his house in order, gaining the mastery over himself ; and becoming on good terms with himself, through discipline, he joins in harmony those different elements like three terms in a musical scale—lowest and highest and intermediate and any others that may lie between these—and binding together all these elements he moulds the many within him into one, temperate and harmonious (p. 443 E).

As soon, then, as it is grasped that the truth Plato is endeavouring to make clear is that the pursuit of good prescribes necessarily a definite rule or law or order of behaviour amongst the seekers of it, imposes in fact a limit (πέρας) so that they will not like the sophists' unjust man " stop at nothing," there is no difficulty in understanding the conception of justice as set forth in the *Republic*.

X.

The next portion of the *Republic* which has proved a stumbling-block—perhaps the greatest stumbling-block—to

the critics is the central group of Books V.-VII. But before discussing its precise position in reference to the plot of dialogue, it is desirable to point out the skill with which Plato connects it with the preceding portion and emphasises its subordination to the main thesis.

The education of the guardians takes up by far the larger part of the description of the ideal state, so much so that it seems almost to occupy a disproportionate part of the entire treatise. Socrates is accordingly careful to give due warning that it is not an irrelevant digression. The reason for the prominence of this topic is, of course, the fact that Plato believes the good or evil of the state is determined entirely by the character of the government or legislative element. The question of direction or rule—the ruling element being the characteristic element in human nature—was the point at issue between Plato and the sophists. Hence he says that it does not matter very much if a cobbler changes places with another workman, but that it makes a world of difference if the cobbler turns guardian or *vice versa ;* and he shows afterwards that the abuse of power by the tyrant is the greatest evil for society. The use or abuse of power, then, being all-important for the state, there is ample reason for discussing the education of the strong men—the rulers—at such disproportionate length, as it may seem at first sight. And certainly for the time it draws off the attention from the organisation of the state as a whole. Accordingly, to remind his readers that he knows what he is about, he puts in little touches like this : "We have been unconsciously purging the city, which we said just now was in too luxurious a condition," says Socrates. To which it is replied : "And we have done wisely". "Come then," replies Socrates, "let us finish our purgation" (p. 397 E), thereby dropping a reminder that he is discussing the ideal state, in its most vital organ, and preparing to bring back our thoughts to the state as a whole. Further, he sums up the whole account by the myth of the earth-born men which, like the allegory of the cave, comes in to subserve a double purpose. It sums up what has gone before, and provides a link with what is to come. The long discussion of education had seemed to lead away from the original question to which it is necessary to return. In the myth Socrates emphasises the importance of class distinctions—a new aspect of the division of labour—with the necessary qualifications, and sets forth the relation of the guardians to the rest of the community and characterises the life they lead. This prepares the way for the inevitable objection that guardians living such a life cannot be happy.

And this gives Socrates a fresh opportunity to 'rub in' his original ἀρχὴ and to bring back attention to the state as a whole. The question, he says, is not that of the happiness of a particular class—more particularly of the ruling class, which has the power, but he is describing a state composed of citizens, each with specific functions to perform, not a collection of holiday-makers. The guardians, accordingly, like the other classes, must be good at their occupation of guarding. The objection is thus overruled "by travelling the same road as before". The aim is to make the whole state as happy as possible, for only thus could they find justice (p. 420 B). And so Plato gets back to the original question, and having discussed the various elements of which the state is composed, he returns to the consideration of the whole. Furthermore, the insistence on the abstinence of the guardians from material wealth and privacy of life is not only an anticipation of the more elaborate discussion of communism later on, but it naturally suggests the general question of wealth, etc., in the state as a whole. By using again his original principle that society comes into existence to supply needs, and that its welfare depends upon the loyal discharge of his own function by each and every citizen, Socrates points out that while wealth destroys the stimulus to work, poverty produces bad workmanship and meanness, and that therefore both encourage innovation. Wealth and poverty alike put a state out of condition, spoil its fighting trim and efficiency. There are, therefore, two alternatives open: a self-sufficient state, or one which consists of wealthy and poor. But the latter is not really a state at all, and ought to be called by "some grander name," for, being disunited, it is not *one* state.

Thus we have been led naturally to consider the question of the proper limits to the size of the state, and the same discussion that raised the question has also brought to light its solution—*viz.*, the standard of unity and self-sufficiency; and we are reminded once again that this matter is settled like the rest by the application of the original ἀρχὴ (p. 423). The unity of the state, then, is all-important, and its preservation is one of the foremost duties of the guardians, which they will discharge successfully, if they attend to the education and rearing of children, which will enable them to see their way through all these questions as well as others which "we pass by for the present," *e.g.*, the possession of wives, marriage and children, in which cases "community" will be the guiding principle.

We may note here as a passing indication of the integrity of the *Republic* and the propriety of Books V.-VII. to the

general plan that the unity and self-sufficiency which are so essential are said to mean all these things: (1) that it must be neither too big nor too small; (2) the division of labour; (3) the division and interchange of classes; (4) the organisation of the family (wives and children); (5) communism. All these characteristics are brought together in a single passage (p. 423 E) and their juxtaposition seems to suggest they were, at least in Plato's mind, logically connected. And indeed, how can the guardians control the size of the state, unless they exercise control over the population question by determining its quantity and quality—or, as we might say in modern terminology, take up, in a large sense, the problem of 'eugenics'. The passage occurring so early in Book IV., at least suggests very strongly that Book V. is neither an interruption nor an afterthought, but is simply kept waiting until it can come on the stage at the proper time.

But it may be objected, why then does Plato postpone the treatment of the subject? Why does he not finish off the organisation of the state at once and have done with it before justice is finally discovered? The answer is, that such postponement is quite in Plato's manner. He just keeps things till the time is ripe for dealing with them, though he is accustomed to give notice of what is in store. He fully intends to deal with these questions, but he has been long enough occupied with the fundamental principles of state organisation and developed it quite far enough to justify a search for justice without more ado. The outline is sufficient for his purpose; nay, most suitable for his purpose. It would have been clumsy to have postponed the search till after Book V. or Book VII. The halt at the covert side breaks the monotony, and the discovery of justice in the state enables him to turn from the large letters to the small, from the state to the individual soul. Further, Plato must have been conscious that whereas he had so far laid down an organisation which is non-controversial, communism, etc., are controversial in the highest degree. Hence, if he had deferred the search for justice till after the treatment of property and marriage, the principle would certainly have seemed to be coloured by controversy, which is exactly what he wanted to avoid. Having found justice, he can, without prejudice to it, proceed to discuss a series of very thorny topics, and he can use them as bridges on which to pass over to a perhaps still thornier topic—the position of philosophy in the state, thus healing one paradox by another. With similar tact he places his condemnation of imitative poetry,

which he also felt to be controversial and for which he almost apologises, between the vindication of justice on earth and the description of its rewards hereafter.

With the discovery of justice as the principle of order and health in the state and in the soul, and the consequent recognition of its self-evident superiority to injustice, it might appear at first sight as if the argument was practically ended, and that, if anything else were wanted, it could only be the companion picture of injustice as the negation of justice. And this is what some critics have hastily assumed. Jowett, for instance, has picturesquely accounted for Books V.-VII. by alluding to them as the higher light of philosophy which breaks through the regularity of the Hellenic temple; while other critics have thought these books were a later addition or an insertion in a revised edition.

Now it might be argued that Plato's expression at the end of Book IV. of his intention to survey the four varieties of perverted states seems to support such a hypothesis. But it derives no support from a careful examination of Plato's manner. If we recognise that Plato's method is always to hint at what is coming and to refer back to what has gone before, the postponement of the description of four perverted societies will cause no surprise. Much earlier, at the very beginning of Book IV., page 420, he remarks, "Presently we shall examine a state of the opposite kind". Yet he has evidently no intention of hurrying on to the proposed examination at once, and no difficulty has been raised by criticism over the fact that he has not done so. He does precisely the same thing in regard to the problems of communism, etc., which are mentioned a little later (*ὅσα νῦν παραλείπομεν*, p. 423), but are not treated for a considerable time. Similarly, he defers the description of the longer way mentioned on page 435 till page 524 in Book VI., and though on page 414 he says that the education of the guardians is only *outlined*, he does not set about filling up the outline till page 503. We may compare, too, his manner in tracing the growth of justice. He is always raising hopes of finding it out, but deliberately defers the final hunt for it till the end of Book IV., his aim being obviously to familiarise his readers thoroughly with the principle in its concrete operation, before it is explicitly revealed in its full reality and significance. These instances are perhaps sufficient to show that Plato is essentially deliberate in his methods—being, as Pater truly describes him, "so provident a writer".

The fact then that he proposes to describe states which departs from the ideal and yet does not immediately fulfil

his purpose need cause no difficulty or give rise to the supposition that the intervening books are an after-thought or an interruption, foisted upon the original scheme. The best way, however, of realising the cardinal importance of the central books, is to accept the theory of the critics provisionally and cut them out on the ground that they break the continuity of the argument. What would be the result? And how should we like it? In the first place, there would undoubtedly be an impression of monotony. After two and a half books devoted to the rise and growth of justice, it would certainly be wearisome, if they were followed immediately by an account of its decline and fall. In the next place, it would be hard to account for the fact that Books V.-VII. form a background for many things in Books VIII. and IX., and provide a basis for their advanced psychology, which otherwise would, to say the least, be less intelligible.

Plato, then, we may safely conclude, does not mind waiting for the proper time and occasion for discussing the various topics that come up for treatment in their turn, and he does this without confusion, because he is always careful at each fresh stage to mark both the transition from and the connexion with what precedes. In a word, he articulates the plot of the *Republic* with great care and clearness.

How then are we to explain the decided pause at the end of Book IV. and the beginning of Book V., without resorting to the critical hypothesis of discontinuity? First, we may call to mind a literary characteristic, which is repeatedly proclaimed by his critics—*viz.* the dramatic power displayed in the *Republic*. The work being a real drama is split up, so to speak, into separate acts, and the intervals are clearly marked. They seem to be marked especially by the reluctance of Socrates. At the beginning of Book V. he is reluctant to discuss communism, just as he is reluctant at the beginning of Book II. to discuss the real nature of justice. In both cases he pretends to think that he has done with the argument. We ought therefore to explain each passage in the same way. In Book V. Plato is entering on the very thorny subjects of communism and philosophic rule. He regards them as essential to the fully developed ideal state, as corollaries of his original principle of justice. He states this most distinctly on page 464. But he is also aware that he is going to defend very paradoxical doctrines. Before he does so, he wishes to bring out into clear relief the really positive non-contentious conclusions he has already reached, which, if not exhaustive of their subject, are sufficient as far as they go. If they had been deferred to a later stage

they would inevitably have taken on a controversial colour. But coming where they do, they appear irrefragable. Again, by introducing the controversial topics afterwards, he builds a bridge, as it were, between the questions of the ideal and its realisation. The paradoxical character of his conclusions in Book V. at once raised in a most acute way the question whether the ideal is practicable. And this brings up the second question of moral philosophy. The first is, What is the good? The second is, How can this good be realised?

Book V. then introduces an integral part of the argument. "What a large question," Socrates says, "are you again raising, as if we were beginning *anew* on our commonwealth. I was rejoicing in the idea of having already done with it and was only too glad that these points should be let alone (*cf.* Book II. *init.*). You little know what a swarm of questions you are rousing by calling for these topics." And again: "You are stealing *a whole section* and *that a very important* one of the argument" (p. 450). It seems evident, therefore, if we are to take Plato at his word, that Books V.-VII. are as much an integral part of the *Republic* as Books II.-IV., being introduced in exactly the same manner. And reflection assures us that Plato is right, for after all it would be a very meagre and inadequate philosophy of politics which neglected to deal with the problem of the relations between the sexes, the family and the population. Education is, of course, of the utmost importance; but no less important is the regulation of the supply of the persons who are to be educated. Similarly, whatever may be thought of the value of Plato's communistic system, there can be no doubt that he would have been shirking a real and vital question, if he omitted to discuss the proper distribution of wealth, and it is noticeable that Aristotle treats the very same question, though of course Plato set him the example. Instead, therefore, of considering the apparent break as an introduction to an after-thought it is better to consider it as an example of Socrates' "accustomed irony". Plato exhibits the same ironical reluctance in regard to the possibility of the ideal. In the course of the discussions started in Book V. he illustrates his method of looking backward by supplying a direct answer to the objection raised at the beginning of Book IV. with regard to the happiness or otherwise of the guardians; but at the same time he looks forward also by mentioning the questioning of the possibility of the ideal state. He postpones this question, however, until he has discussed the usages of war. But at last the

question can no longer be avoided. On page 471 D Glaucon pulls up Socrates sharp, saying:—

> If you be permitted to go on in this way, you will never recollect what you put aside some time ago, before you entered on all these questions, *viz.*, how this state is possible,

and again,

> As I fully admit the presence of all these merits and a thousand others in this constitution, if it were brought into existence, you need describe it no further. Rather let us try to convince ourselves of this that the thing is practicable and how it is practicable, leaving all other questions to themselves.

And as usual Socrates defends himself by saying that he has been led to this point by the inquiry into justice and injustice, which is as much as to say that the ensuing discussion of the rule of philosophy is part and parcel of the original problem.

XI.

It is usual to put the dividing line in the *Republic* at the end of Book IV., because justice and its profitableness have been revealed, and it is proposed to look out from the watch tower of this conclusion upon the four varieties of vice. It seems, however, far more satisfactory to place the division in the middle of Book V., where the question of the realisation of the ideal, as distinct from its desirability, comes up for definite and final treatment. As this differs from the usual analysis of the dialogue, and has some bearing upon the comprehension of its plot, it seems desirable to go somewhat fully into the matter.

It is clear that the argument has entered on a new phase. Hitherto Socrates has been developing the consequences of the justice-principle, of which the first series are such as would be generally acknowledged without hesitation, and at the end of which, therefore, he reveals his principle fully, whilst the second series are too paradoxical to be generally admitted and require to be sanctioned, as it were, by the prestige of the now fully revealed principle. But whether he is discussing controversial or non-controversial positions, he is doing the same thing all along—he is describing the ideal. Now, however, he undertakes to show how this ideal can be realised in practice. In this procedure Plato is merely following the traditions of moral philosophy in Greece, the aim of which was always intensely practical. It was not content merely with getting to know "reason

and the will of God," but strove also "to make them prevail". It was a way of life, as well as an exercise in speculation. And one sometimes thinks that much ethical inquiry would lose its barrenness, if the example of Greek philosophy were followed.

Moral philosophy has in fact three questions to answer, (1) What is morality? and this involves (2) What is the ideal? and this again involves (3) How can the ideal be realised? or, to put it another way, It is necessary (1) to realise that there is an 'ought' or a 'must,' (2) to realise that this 'must' or 'ought' is admirable or beautiful (*καλόν*), and (3) to realise that this 'must' or 'ought' has to get to work in practice. Or again the sequence of ideas might be expressed thus: (1) We have to see the highest, (2) we must needs love it, (3) and we must realise it in practice. These are all aspects of the same problem, and the *Republic* does justice to them all. And we feel that Glaucon expresses the common sense of mankind, when he insists that moral philosophy is not merely a theoretical inquiry into the existence of the ideal, or the painting of its portrait. He says, quite properly, that you can if you like go on for ever cataloguing its merits. But the really practical and important thing is to get it realised. It is this fact, that man has not merely to approve, but to do, and to do, because he approves, a fact which comes home inevitably to every consciousness—to which Plato does justice in these central books of the dialogue. The cynic may deny the existence of morality; the moralist may demonstrate its existence and even go into raptures about it. But the toil and the trouble is to get it to work. Or again, to express the situation rather differently, just as the sophist denied both the *existence* and the *operation* of the moral principle, so Socrates affirms both. And the line he takes is that you have first got to see that a thing exists, and then you can see that it must work, and how. For it is ridiculous to say that a thing exists and has a true nature, and yet think of it as an inoperative, as if it made no difference to the actual world. It is therefore not inappropriate that the question of the practicability of the moral ideal should be settled in close connexion with the problems of knowledge and reality. The realisation of justice and the just state involves the recognition of the ideas or 'forms' of the good. The sophist cannot discern them and he accordingly denies their reality or their capability of being realised. But the true philosopher can discern them, and immediately recognise his obligation to realise them in practice. To Plato's mind the connecting link between the ideal and the

possible was φύσις—true nature. The ideal is possible, he thinks, because it is natural. It is only a question of realising or actualising a δύναμις which is part of the nature of things. As he says on page 456: "Then our legislation has not been an impracticable dream, seeing that we have made our law in accordance with nature? (*οὔκ ἄρα ἀδύνατά γε οὐδὲ εὐχαῖς ὅμοια ἐνομοθετοῦμεν, ἐπείπερ κατὰ φύσιν ἐτίθεμεν τὸν νόμον*). Present conditions which depart from this are evidently much more a departure from nature." The ordinary facts of moral experience corroborate the correctness of the order of ideas in Plato's mind. It is only those who have the full consciousness or the true idea of what morality means who feel the deepest obligation and take the most pains to realise it in practice. Consciousness of moral distinctions, that is the knowledge of the reality of morality, implies the consciousness of obligation and of duty. The two things are inseparable. In the language of Socrates, knowledge of the good gives power to do the good. 'Know thyself' is equivalent to 'Be thyself'. The *Republic* in fact is one long discourse on the familiar Socratic formula, "Virtue is knowledge". Virtue has first to be acknowledged as belonging to the nature of things; its reality must be known, and then, it goes without saying, it must be practised. For Socrates held that when you see a thing to be reasonable, you decide upon it. "Act so" means "think so," as Mr. Bradley expresses it, and "think so" means "it is" (*Appearance and Reality*). It is not strange, therefore, that, in the portion of the dialogue which treats of the relations between the ideal and the practicable, Plato also deals with the relation which is at the foundation of them, *viz.* the relation of knowledge and reality. For if a thing does not exist, it cannot be known; and if it cannot be known, it does not exist and cannot therefore produce any effect on conduct. Plato was perfectly sure that a full discussion of ethics necessarily involved metaphysical inquiries, for unless the conception of the "ought" is grounded in reality, in the nature of things, it could not possibly have any claim upon men's allegiance. It was, therefore, by a necessity of thought that the inquiry into the nature of justice should run up into an inquiry into the known reality—the idea. Accordingly, those who propose to exclude the central books from the original plan of the *Republic*, practically assume that Plato was not in the first instance aware of the metaphysical implications of moral inquiries. We prefer to believe that he knew better than his critics.

It has seemed desirable to dwell at some length on this aspect

of the *Republic*, not only because it is not generally recognised, or at least brought into sufficient prominence, but also because it is expressly repudiated by so eminent a scholar as Dr. Thompson. In his introduction to his edition of the *Gorgias* (p. xx) he says: "The dogma that virtue is knowledge was one of the Socratic prejudices from which he (Plato) gradually emancipated himself, as his ethical views matured," and notes its absence from both the *Gorgias* and the *Republic*, in which, he says, is developed the theory that virtue is order, harmony, proportion. The weakness of such a criticism is the assumption that Platonism is a thing of shreds and patches, and changes colour like the neckties which a man may wear successively and discard. It wholly ignores the organic or systematic character of Plato's thought—the fact that it presents a permanent, characteristic attitude to the universe. The truth seems to be that Plato from first to last held a particular set of views, which he illustrated differently from time to time according to circumstances and the nature of the particular subject he happened to be discussing, and in spite of the labours of Prof. Jackson in the opposite direction this view seems to be gaining ground. The Socratic element in Plato's thought is more and more recognised. And it is not a little remarkable that the very passage which illustrates most brilliantly the famous Socratic moral aphorism should be excluded from the first design of the *Republic* as pure Platonic metaphysics.

So far is this dialogue from having got beyond the thesis that 'virtue is knowledge' that it would be truer to say that here it receives its most classic presentment. 'Virtue is true philosophy' is not much unlike 'Virtue is knowledge,' especially when philosophy means love of knowledge, entire and real, and knowledge means knowledge of real existence, 'of what is according to nature'. And once more, if virtue is order, harmony, health, it is philosophy which is the great guarantee of its preservation. Indeed, if there was one idea to which Plato clung from first to last, it is the old Socratic maxim, "If you want really to do anything, you must first know how to do it"; or what comes to the same thing, "If you want to do a thing, you must know what it is and what you are about". In the *Republic*, therefore, his most comprehensive treatise, he gives the most thorough-going application of the thesis in his insistence on the rule of the philosopher, although he has by no means relinquished, as Dr. Thompson's words would have us believe, his ordinary manner in using the formula, which he had adopted in the earlier dialogues; for *σωφροσύνη* is defined, quite in the spirit of the Socratic formula,

as "the preservation of right opinion concerning things which are and are not to be feared".

The intimate connexion of virtue and knowledge was, of course, forced upon Socrates and Plato. The Sophist with his cynicism in ethics and his scepticism in metaphysics denied the existence of both. The denial of the one logically involved the denial of the other. For, if the nature of things is such as to make judgments impossible, the most important judgments for man, *viz.*, those which have 'good' as their predicate, are also impossible. Everything is turned upside down and morality shares the general ruin. Plato saw clearly that, if he was to rehabilitate morality, he must not only satisfy the heart but the head, and that, to assert the reality of virtue, he must assert also the reality of knowledge —that is, that he must have recourse to metaphysics. It seems therefore inconceivable that Plato could ever have thought of treating the one apart from the other, as he must inevitably have done, if, as Dr. Thompson suggests, the old Socratic thesis 'Virtue is knowledge' is dropped in the *Republic*, or if, as other critics have suggested, the book consists of two portions originally independent, and afterwards pieced together.

The picture of the truly good state or objective justice properly consists not merely of Books II.-IV., according to the view ordinarily held, but of Books II.-VII., which may be divided into two main parts. (1) Justice or the just state exists by nature and is best, *i.e.* our idea of what is best—the problem put forward for solution by Glaucon and Adeimantus —is justice. (2) Justice or the just state, *i.e.* our idea of what is best, though difficult can be realised by putting philosophy into power. A complete theory of morals and politics such as the *Republic* purports to be—a theory of the best life for the individual—for *all* individuals—could not afford to omit either part.

A corroboration of this view of the relation of the component parts of the work is to be found in Nettleship's lectures. Though he says that Books V.-VII. 'break the continuity of the dialogue and that Book V. *init.* "looks like a fresh start," he says (p. 186): "From this point to the end of Book VII. there is no real break in the argument. It is a continuous development of what is involved in the position just laid down" (*viz.*, that philosophers must rule). Thus he holds that Books V. *med.*-VII. form a continuous section, whereas Jowett says Books V.-VII. do so, and holds that the point of view in Books I.-IV. is different from that of Books V.-X. This is a kind of discrepancy, which is not

infrequent in disintegrating criticism. The stumbling-block is the first part of Book V., which is alleged to constitute a break in the original argument. But this, as we have endeavoured to show, is nothing more than a Platonic device for articulating the plot. The argument is continuous throughout and might be analysed as follows :—

I. Prologue or Introduction to moral philosophy (Book I.).
II. Sketch of the moral ideal (Books II.-V. *med.*).
III. The realisation of the ideal (Books V. *med.*-VII.).
IV. The other side of the picture (Books VIII.-IX.).
V. Epilogue (Book X.).

If this analysis is correct, the key to the work would have been lost if Plato had ever intended to go straight on from Book IV. to Book VIII., and in Plato's words "a whole section of the argument would have been stolen".

The logical connexion of the whole section with the main argument having been indicated, it only remains to show how Plato explicitly affirms the connexion in detail by specific references to portions in the earlier books. One instance occurs on page 497 in Book VI. where Socrates has mentioned that philosophy has no proper environment,—a state of things which is bad both for philosophy and the world. The problem, therefore, is to find the fitting constitution. "Well," says Adeimantus, "is it the state we have described?" "Yes," replies Socrates, "except in one point, which was alluded to during the discussion, when we said that it would be necessary to have constantly present in the state some authority that would view the constitution in the very light in which you and the legislator viewed it, when you framed the laws." This is a direct reference to page 412 A in Book IV., where we read: "Then will not some such overseer be always needed in our state if our commonwealth is to be preserved". A more interesting reference also occurs in the same passage, where Socrates openly acknowledges that he must discuss "in what way and by what studies we shall secure the presence of men capable of preserving the constitution". And it is specially interesting because it has been so grossly misunderstood. Socrates refers expressly to Book III., page 412, where he had described the various tests for selecting the guardians. Now, he says, these tests were insufficient and must be supplemented by others. Previously they had been tested by pleasure and pain—but now they must be further tested in regard to their faculty for philosophic study. "Then," says Socrates, "I shrank from assertions I have since hazarded. Let me venture to say this also, that we must make our most perfect guardians philo-

sophers" (p. 503). And in summing up his previous account of the required tests Socrates remarks: "Such was what we said when the argument (for fear of raising the question now before us) kept turning aside and veiling its face". It would be difficult to imagine a clearer definition of the connexion between two sections of an argument. Yet, strange to say, Davies and Vaughan so far missed the point that they wantonly altered the text, by arbitrarily transposing φύλακας and φιλοσόφους to support their misconceptions. The result is that they spoil the whole passage by breaking the unity of the argument. Both text and argument alike require the sense, "We must make our most perfect guardians philosophers," and not *vice versa*. For the guardians are to be tried and tested in ways that were formerly omitted, *viz.*, by mental exercise in a variety of studies. But what are the highest subjects? Adeimantus inquires. Whereupon Socrates replies by a direct reference to pages 414 and 435.

"You remember how we separated the soul into three parts and deduced justice, temperance, etc., and also the remark preceding it; that we should take a longer route, but that it would be possible to give a demonstration flowing from previous conclusions. You were satisfied, and then followed these investigations which were to me deficient in exactness (*cf.* p. 435). We must now go round by the longer route, else we shall not reach the highest sciences." "What," says Adeimantus, "is there anything higher that justice?" "Yes," replies Socrates, "and we must not be content with an outline, but be elaborate" (p. 504, condensed).

When one reads such a passage carefully, it is not easy to understand how it can be imagined that Plato ignored or forgot at the end what he had said at the beginning.

More instances might be given to illustrate the connexion between these books and their predecessors. But the above are perhaps sufficient to show on the one hand the pains taken by Plato to point out the connexion and on the other the reluctance of critics to take him at his word. The only satisfactory conclusion seems to be that these books containing the τρίτη πόλις of the philosophers are no less part of the original plan of the dialogue than the πρώτη πόλις "of the pigs" or the luxurious δευτέρα πολις, which needed purgation. Further, whatever be the correct position which ought to be assigned to the treatment of ideas in the *Republic* in the view of those who are specially interested in the extremely problematic task of finding out the precise chronological sequence of the dialogues in order to trace the development of Plato's metaphysics, there appears to be good reason for holding that Plato has introduced just those aspects of the ideal theory which were necessitated by his profound con-

viction that no treatment of ethics was complete which did not take account also of metaphysics and epistemology—or, in his own terminology, that the question of justice, inquiry into the meaning of knowledge and reality, and of that, which is beyond both, the good.

XII.

The position of Books VIII. and IX. present no difficulty in the consideration of the plot. They have never proved a stumbling-block as they have always been assumed, even by the disintegrators, to form part of the original piece. All that is necessary is to show in regard to them why they occupy the precise position they do occupy, why they should come after the picture of the philosophic state and how they are connected with and dependent on it. It might, however, be pointed out in addition that they also illustrate the inherent 'irony' of the method adopted all through the Socratic exposition. Socrates started with the admission that *both* justice *and* injustice would come to light in the process of building up the state (*ἆρ' οὖν, ἦν δ' ἐγώ, εἰ γιγνομένην πόλιν θεασαίμεθα λόγῳ, καὶ τὴν δικαιοσύνην αὐτῆς ἴδοιμεν ἂν γιγνομένην καὶ τὴν ἀδικίαν*; p. 369), and he was careful to point out at each stage in the development of the state that this was the object of the process. But curiously enough the result, which did not appear at first sight, was that justice only came to light in the development of the *ἀρχή*, and injustice in the first stage of the argument is only recognised abstractly as the opposite of justice, which has come to light. If justice is the health of the state, as has been described in detail, then injustice must be its negation—the principle of disease and corruption, whereby the state goes to rack and ruin. It is just the not-being of justice. In proportion as justice fails to be realised, to that extent you have injustice. In other words, the argument goes to show that an absolutely consistent development of the impulse to seek one's own good (*οἰόμενος αὑτῷ ἄμεινον εἶναι*, p. 369) which is the basis of social, *i.e.* human, activity, leads only to good and its recognised manifestations—justice and the virtues, which rest upon it, and never can lead to anything else, as the sophists maintained. Injustice, therefore, does not come into view in the *γένεσις* of the state, which is according to nature (*κατὰ φύσιν οἰκισθεῖσα*). On the contrary, it can only come into view in the *φθορά* of the state. For it is the principle—if not-being can be called a principle—of its destruction, and is realised through the violation of the state's true nature,

viz. justice. So far from injustice being inherent in the original nature of man and society, as the sophistic theory proclaimed, it is the most unnatural thing in the world, and only reaches its full development when society is in a state of complete dissolution. As therefore justice had been portrayed in the detailed picture of the progress of society according to the natural, ideal order, so it was necessary, if the argument was to be complete, to give by way of contrast the detailed account of society gradually going to pieces through the negation of the social principle—justice. But in order to recognise what injustice really is, it was necessary first of all to show in clear relief the lineaments of the positive principle—justice.

You cannot appreciate the extent of human degradation, unless you first of all know the height from which mankind can fall. Without a knowledge of the ideal, you cannot realise apostasy from the ideal. Justice is thus shown to be the positive principle of society, that which makes it possible, and logically and naturally prior to injustice, which is merely a turning back upon it. Justice accordingly is the first choice and to choose injustice is to turn your back on the natural order. The *Republic*, therefore, preaches in pictorial fashion precisely the same doctrine as the *Theætetus* —that evil is a sub-contrary to good (*ὑπεναντίον τι*). Injustice is the antagonistic principle of justice, but a subordinate one, for though you can and must think out human life on the supposition of justice, you cannot think it out as constituted by injustice—a principle of negation and revolt from nature. The latter may be the dark shadow, which tends to dog the footsteps of its adversary, but the *real* world, Plato seems to say in effect, is not a world of shades.

XIII.

We now come to the Tenth Book—which we have called the epilogue, and which some critics call an 'appendix' or an 'episode'. Nettleship calls the first part a digression on poetry, describes the whole book as the most detached portion of the *Republic* and consisting of two disconnected sections (*Lectures*, p. 13). With regard to the first section he says that, "it is disconnected from the rest of the *Republic* and the transition to the subject of art and poetry is sudden and unnatural". Though he does trace a certain amount of connexion, "still this section breaks the continuity of the *Republic*. It does not bear in any way on the last section of Book X., which would naturally follow at the end of Book

IX., forming a fitting conclusion to the whole work. . . . Further within each of these two sections it is easy to see the traces of more than one redaction of the same topic." And he mentions that 605 C should follow on 602 B and not on the passage which precedes it, and he describes 611 A as 'fragmentary'. Further "from the very apologetic opening and the nevertheless polemical tone which pervades the whole discussion, one might infer that Plato had been attacked by critics for what he had previously said about poetry and that he therefore returned to the subject with greater animus, prepared to go a good deal farther" (p. 341). And again, "The second part of Book X., like the first, shows symptoms of having been 'left in an unfinished state'. In the opening words, which introduce the subject of immortality, 'And yet nothing has been said of the greatest prizes and rewards of virtue' (608 C), there is no transition from what has gone before. Plato has not, as they imply, been talking of the rewards of justice on earth. He first begins to speak of them in 612 A, and after that there occurs in 614 A another opening similar to that in 608 C, and this time in its proper connexion. Thus the argument about immortality (608 C-612 A) does not seem to be in any organic connexion either with what actually precedes or with what actually follows it. It would seem that Plato had two plans in his mind as to how to finish the *Republic*."

Such criticisms are extremely damaging to the hypothesis of the *Republic* as the expression of an excellent plot or as a work of art, to say nothing of it as a consecutive piece of reasoning, the soundness of which depends entirely on the connexion of ideas. They suggest the idea that the work is bungled at the end and has a very lame and impotent conclusion. Great deference must always be paid to the views of so true an interpreter of Plato as Nettleship, but it seems undesirable to accept the familiar stock-in-trade of the disintegrating theory—redaction, second editions, hesitation between alternative plans, incompleteness,—unless necessity demands. And it is reassuring to read in Adam's *Commentary* a very different view. Adam calls it an 'episode,' it is true, but remarks that "the Platonic dialogue like actual conversation is at liberty to recall, modify, or expand the results of a discussion apparently finished. This is his first, best, and only opportunity to justify his exclusion of μιμητική by metaphysical and psychological as well as by moral and pedagogical arguments. He must have something behind him to dethrone the Bible of Greece." Nor does Adam find any stumbling-blocks in the text itself. There seems there-

fore to be as strong a case for the connexion as for the disconnexion of the first part of the book. And when we consider the function of an episode in literary composition in ancient Greece, the balance of argument seems to be in favour of the theory of connexion. Aristotle points out in the *Poetics* that more latitude is allowed to the epic than to the tragic poet in the introduction of episodes, and *a fortiori* a similar latitude should be allowed to a different form of composition like a dialogue, which, as Adam points out, is modelled on actual conversation. All that is necessary, according to Aristotle, is that episodes should be relevant (*οἰκεῖα*), and it cannot be denied that this digression on poetry is strictly relevant to the main issue, although opinions may differ as to the validity of Plato's attitude in general to the mimetic arts. But, granted his premises, it is not difficult to see the validity of his expulsion of mimetic poetry from his ideal state. In the earlier part of the work the objections to it had been based on 'moral and pedagogical arguments,' intended to show that unlicensed imitation had the effect of destroying that individuality of function, on which the state was based. In the interval Plato has shown that this individuality of function runs up into something higher—into that form of good, which transcends both existence and knowledge.

Moreover, a lurid picture has been drawn of the fatal consequences of violating the principle of justice, through which the form of good manifests itself in human society. Accordingly at this point he not only brings forward metaphysical and psychological arguments in addition, but also urges the immense importance of not weakening that contact of the soul with reality, the knowledge of which is the foundation of justice. Thus he not merely supplements but deepens and strengthens his argument. It may be fanciful, but it is also interesting to observe that he brings out another aspect of ideas than that which was most prominent in Books V.-VII. In these the emphasis was laid on the contrast between the permanent and the changing, the real and the apparent. Here he dwells on the notion that the idea is in the order of nature (*ἐν τῇ φύσει*) and thereby recalls the associations of what is natural (*κατὰ φύσιν*) on which so much stress was laid in the earlier portions of the argument. The business of man, he seems to say, is to follow the natural order. No sacrifice, therefore, of what, after all, is three removes from nature is too great to secure adherence to the proper path. Not even Homer and the tragic poets must be allowed to stand in the way. And he effects the transition

to the concluding 'episode' or 'epilogue' at the end of the discussion by recalling the greatness of the issue as his excuse for clearing away every obstacle. "For much is at stake, my dear Glaucon," I said, "more than people think, in a man's becoming good or bad; and therefore he must not be reduced by honour or money or any office or even by poetry (*οὐδέ γε ποιητικῇ*) to dare to neglect justice and the rest of virtue" (p. 608). By the mention of poetry as a dangerous influence parallel and in addition to the other sources of corruption, that he had already illustrated, Plato seems quite clearly to hint the connexion of the digression with the main body of the work, and the remark that the issue is 'greater than people think' appropriately leads the mind to the concluding episode and consummation of the work.

The issue, as Socrates goes on to explain, is not confined to any given individual mortal life. Injustice has been shown to be the greatest evil that can affect the soul, but it might be urged the evil is not everlasting—it dies with the soul, and thus death might bring relief. But, says Socrates, this is not the case, for though injustice destroys the health of the soul, it does not destroy its life. The soul's life is not bounded by the narrow limits of birth and death, but goes on for ever, being indestructible and imperishable. The effect, then, of injustice is not to kill the soul but to afflict it with the most terrible diseases, which, if not incurable everlastingly, are not healed without awful torments. Hence the choice which a man has to make, does not affect the present life only, but has far-reaching consequences extending to an endless succession of lives. For man, according to Plato's doctrine, is 'a heavenly plant' (*οὐράνιον φυτόν, οὐκ ἔγγειον*, *Tim.*, 9, A) and the effects of his actions cannot be bounded by any earthly horizon. Thus man no longer appears merely as an ephemeral inhabitant of earth, as the materialistic sophist regarded him, but as the pilgrim of eternity, 'the spectator of all time and existence'. It thus becomes necessary to deal with the relation of time to eternity, of the individual to the universal. But this is just the problem which it is impossible to state with exact philosophical precision (*λίγῳ*), as the subsequent history of philosophy, by its record of repeated failures, abundantly shows; and Plato has not the hardihood to attempt it. He falls back, true to his principles, on the myth, 'the noble lie,' whereby he will make his theory "as like the truth as possible," when the exact truth is beyond us. And so he ends by emphasising the tremendous import of the choice between good and evil, by the introduction of

supernatural machinery which gives a vision of the judgment and the relation of time to eternity.

But first Plato is careful to point out that he has won his case and fought strictly according to the rules of the contest. Even in the earthly contest justice has won a handsome victory. By itself alone, by virtue merely of its power in the soul, by being its own reward, it has turned out to be better and more profitable than its opposite. He has shown also then the soul will act justly even if it have the ring of Gyges and quite regardless of the favour of the gods as of public opinion. His language at this point recalls the very phraseology of Glaucon and Adeimantus in the formulation of the issue in Book II. What the brothers wished to be proved has been proved in set terms.

Having, then, established independently the superiority of justice, Socrates is now in a position to show that after all the gods and public opinion cannot be left out of account altogether in a complete philosophy of life, and that by agreeing to argue on the terms imposed by Glaucon and Adeimantus, the champions of sophistry, he had actually been making them a loan, which he must now take back. For if justice is good, it is nonsense to suppose that the gods who, according to Plato's definition in Book II., are 'authors of good' can be indifferent to the fate of the just man or that his fellow-men will not pay him his meed of recognition and reward. As well expect the victor in the races not to receive applause and the crown. On the contrary, the just man will have his prize of virtue and he will be crowned either in this life or in the life to come. "The true runners run to a finish, receive their prizes and are crowned," and "though the just man live in poverty, in disease or any other seeming evil, things will in the end work out well for him either in life or after death. The gods surely do not neglect him who will bestir himself to become just, and by the practice of virtue to make himself as like God as man may" (p. 613). Thus Plato places himself at the head of all the robust philosophers and endorses the verdict of the world which judges with perfect confidence that it shall be well with the righteous. And so Plato's moral philosophy ends in religion, which indeed it is, as Nettleship points out. The whole duty of man is ὁμοίωσις τῷ θεῷ and its obligatoriness is emphasised by the vision of a future life and of the controlling forces of the Universe. This vision, being dominated through and through by ethical ideas, is not only a means by which Plato purifies the conceptions of Hades current in contemporary popular thought,

but also expresses in a figure his conviction that morality, goodness, is of the nature of things. At the same time it inevitably suggests the problem of free-will and necessity by bringing the individual into direct and immediate contact with the fates. Man is represented as exercising his choice of good or evil in the immediate presence of the powers which direct the universe. And it might well be asked how far can man determine his own choice, and how far is it determined for him by forces which are too strong for him? Plato is conscious of the difficulty. He is perfectly aware that the moral life cannot be isolated 'on a hill retired,' safeguarded from the intrusion of the ultimate problems of reality, as some moral philosophers would have us believe. And if reality is a cosmos of ordered necessity, how can the individual choose freely? And the most ordinary and patent facts of life—that the individual is born into a lot which he did not choose and which seems to exercise so much influence on him for good or evil—suggest these questions. The problem of freedom then, naturally and logically, comes up into full relief alongside of the other great ideas of philosophy at the end of the dialogue. Of God he had in a manner given an account in the idea of good; of immortality he offers a proof. But freedom is a mystery, which no philosophy has finally solved. Plato is content to treat the matter in a figure or myth, in which he gives a profession of faith. Though he is convinced that all things are ordered by necessity, he is equally convinced that necessity cannot annul man's freedom to choose the good. Otherwise virtue would be under a master and therefore a slave. "But," he says, "Virtue has no master (*ἀδέσποτον*) and as a man honours or despises her, so will he have more of her or less. The responsibility is on him that chooseth. There is none on God." And with characteristic paradox, free choice is described as being exercised under the presiding direction of Necessity, and it is the spokesman of "the daughter of Necessity," that proclaims man's freedom.

IV.—DISCUSSION.

THE EGO-CENTRIC PREDICAMENT.

In the course of a discussion on realism, Prof. Perry tells us that he reached his own view by discovering 'that the prevailing philosophy, known as idealism, was incorrectly maintaining as its central thesis the necessity and universality for things of their relation to an apprehending, experiencing, or cognising mind. I desire to argue with . . . any philosopher who will do me the honour, the merits of this question.'[1] Several writers have answered the appeal either in support or criticism of Prof. Perry's view; and it may be that further comment is idle. But as I do not feel quite satisfied with the way in which the case has been presented by any one whose statements I have noticed, I venture to take up Prof. Perry's challenge. My interest in the main, however, is not in supporting or confuting Prof. Perry, but in the question itself. The argument which I have to put forward may be divided into three sections. In the first place, I wish to summarise Prof. Perry's contentions as I understand them; in the second, to consider the situation of which these views are an analysis; and in the third, to discuss the bearing of the problem on idealism and realism.

Prof. Perry first stated his view on this topic, so far as I am aware, in the *Journal of Philosophy*, etc., for 1910, in an article entitled 'The Ego-Centric Predicament'. His design there is to consider a closely limited argument, put forward on behalf of a view which he calls ontological idealism. This view is, he tells us, that everything and anything is defined by its relation to a cognitive or experiencing subject. Taking E as the symbol for the ego in a general sense, Rc for the relation of whatever is known to the ego which knows it, and T for anything at all, ontological idealism may be described as the view which asserts that (E) Rc (T) defines T. The relation involved here, Rc, is, Prof. Perry points out, a specific one. It may be said that in the end any two things in the universe have some relation to one another; but ontological idealism is not speaking of any vague relation which may happen to hold between E and T; it has in mind the special and definite relation of being known, experienced, cognised, or how-

[1] Mind, 1915, p. 240.

ever else one likes to call it. And the view which it advances is that this relation to a subject is in some sense necessary to everything.

When ontological idealism attempts to prove this position, a peculiar situation is revealed. It points out that there is nothing that we can adduce which is not a content of experience, *i.e.*, which does not stand in the relation Rc to E. Anything which we mention, or to which we refer, is a content of experience in the wide sense of that term which alone is relevant here, *i.e.*, it is in the relation Rc to E; for mentioning, referring, and so forth, are cases of Rc. That is to say, when challenged in this way we cannot indicate anything which does not fall under the relation to a knower. If we eliminate the relation in question we cannot see what happens: we have ceased to think. Prof. Perry gives this situation the title of the ego-centric predicament. From this predicament ontological idealism draws the conclusion that there *is* nothing which does not stand in the relation of a content to knowledge.

Prof. Perry dissents from this result. We are not justified in concluding from the ego-centric predicament that there are no instances of T out of the relation (E)Rc(T): we are faced by a methodological difficulty, and not by a consideration which applies to objects at all. We introduce ourselves when we turn to any object or thing; but it is possible that there are things quite apart from our turning to them and studying them. This is an essential point in Prof. Perry's argument, as I understand; and it deserves prominence. He assumes that there are two alternatives open to us; and apart from evidence neither is more likely than the other. On the one hand, there may be things apart from knowledge—T may be out of the relation (E)Rc(T) as well as in it; on the other hand, things may be necessarily conditioned by knowledge—every T stands in the relation in question. The ego-centric predicament affords no evidence regarding those alternatives, and cannot be used to prove one rather than the other; for if the former alternative were true we could not discover it.[1] It is important to remember that the term E—knowing, experiencing, feeling as a subjective fact—is a general term, referring not to a special subject but to any one at all. And hence it is of no avail to appeal to what happens to anything when it becomes known to some other subject than oneself. 'In making the comparison, I institute the relationship with myself, and so am unable to free T *altogether* from such relationships.'[2]

In another article Prof. Perry elaborates the argument.[3] The ego-centric predicament conveys no information about things. It

[1] See *Journal of Philosophy*, etc., 1910, p. 8. [2] *Ibid.*

[3] MIND, 1910, 'The Cardinal Principle of Idealism'. See also *Present Philosophical Tendencies*, chap. vi., where the two articles are connected together.

contains a proposition, it is true, namely, that 'every mentioned thing is an idea'—Prof. Perry is using the term 'idea' for contents apprehended—'But this is virtually a redundant proposition to the effect that every mentioned thing is mentioned, or that every idea, object of knowledge, or experience, is an idea, object of knowledge, or experience. And a redundant proposition is no proposition at all. The assertion that an idea is an idea, conveys no knowledge even about ideas.'[1]

Finally, if it is argued that the position of ontological idealism—(E)Rc(T) defines, or is necessary to, T—can be made out by an inductive proof, the reply is that, over and above the error of trying to infer anything from a redundancy, the argument uses an inconclusive form of induction. It relies on the method of agreement alone, and forgets that the failure to find negative cases is due to a condition of observation, and not of the cases themselves. Prof. Perry clinches his point by some examples. 'Thus, I cannot conclude that English is the only intelligible form of speech simply because whomsoever I understand speaks English.' Similarly, with the wearing of coloured glasses we have to discount the blueness of the things we see; for we have imported it into them by our manner of observation.[2] The ego-centric predicament proves nothing: 'it would be as reasonable for me to conclude . . . that a star of the eighth magnitude must be seen through a telescope, or that chromosomes must be stained in order to exist. . . . This leaves open the question as to whether there is or is not a logical or causal connexion between the thing observed and the observing process. The Martian canals *may* be in the telescope, or the staining may create the cell body.'[3] But the matter must be settled on other evidence. 'One would have to produce evidence that things in general are caused by the agency or operation called mind, or that they somehow imply it *a priori*.'[4] We may postpone asking whether this evidence is forthcoming.

Prof. Perry's view has been endorsed by Dr. Wendell Bush. He agrees that 'the idealist commits a logical fallacy in his resolution of the "predicament". The situation lends itself quite as consistently to the realist's interpretation as to that of the idealist. It is as though an admirer of negative values were to insist that because $x^2 = 4$, x must $= -2$. When all we know about the situation is that $x^2 = 4$, to argue that $x = -2$ and not $+2$, is to commit the same fallacy that the idealist commits in commenting upon perception. Under the assumed conditions $x = \pm 2$, and that would seem to be the end of it.'[5] This omits the question of further evidence which Prof. Perry raises, but we may waive that for a moment. Dr. Bush concludes thus: 'If the problem of choosing logically between alternatives is extinguished by dis-

[1] MIND, 1910, p. 334; *Present Philosophical Tendencies*, p. 131.
[2] *Ibid.*, p. 131 f. [3] MIND, 1915, p. 241. [4] *Ibid.*
[5] *Journal of Philosophy*, 1911, p. 438.

covering that the very logic of the situation prevents the elimination of alternatives, is not the problem solved by that discovery? Just as $x = \pm 2$, the epistemological problem of the ego-centric predicament is solved by taking all the alternatives together. Or if this is not a solution, then the conditions themselves logically prohibit a solution, which is the same as saying that they do not provide a problem of the logical type.'[1] This is not quite the conclusion to which Prof. Perry himself comes in the end—it assumes that further evidence is impossible—but, as we shall see, it is not irrelevant to the main point.

I have stated Prof. Perry's argument fairly fully; I propose now to consider the situation itself. The first point which seems to me to deserve mention is the wide sense in which Prof. Perry takes the term E in the relation (E)Rc(T); it stands for any knower of any sort. The situation it quite different if we identify E with some individual act of knowledge. There is no difficulty in pointing out things which are not the content of some definite subject's apprehension in some specific circumstance. The challenge which is thrown out by idealism according to Prof. Perry, may be taken in two ways. If it means, Indicate something which is not relative to knowledge at all, it is a demand with which we cannot comply—as Prof. Perry agrees. But if it means, Indicate something which is not relative to your present act of knowing, can I not proceed to acquaint myself with some new fact and then mention it? I do not know what word will end the next line, but I hope to know soon. That is to say, when E stands for a definite and individual knowledge, the predicament which is involved is one from which we can escape by another act of knowledge.

In the second place, a similar point may be made with regard to the relation 'Rc'. If we understand it to mean some one definite method of apprehending or being aware of things, sensing, perceiving, thinking, and so on, then if any other mode of knowing is left open to us, the predicament is not formidable. Thus, I may know the existence of something which is not actually present to me; I may infer it from what is before me or, in general, from some piece of information which is otherwise known to be true. From this it follows that the ego-centric predicament does not justify the inference that things come into existence when they are apprehended, and disappear when the apprehension ceases. An apprehension which comes and goes is not all knowledge, it is a limited case of it; and it is possible by another act of knowledge to compare the fact as known to the first act of knowledge with the same fact as unknown to it.

We may go farther than this. It is possible to know objects which are not bodily present. I may think now of something which is past, or which has not happened yet; and I may be

[1] *Journal of Philosophy*, p. 439.

aware now that it is not a present fact. I may even know that the thing whereof I think is not a fact at all, and in the strict sense of the term does not exist; I may think of something which did not take place. 'Suppose Hannibal had taken Rome ——.' Hannibal did not take Rome, and I am aware of that as I think of the suggestion.

In short, if we refer to a special subject or act of knowledge, it is possible that objects may exist apart from the relation Rc to it; and we may know that they exist. Similarly, if we refer to some special limited form of apprehending, objects may exist apart from it. And, lastly, things known may be known not to co-exist with the act of knowledge which apprehends them.

When we turn to the wider interpretation of the situation, where E is any knowledge, and Rc any form of knowing, we cannot adopt the same attitude. It is impossible to comply with the challenge to produce something which does not stand in the relation Rc to E: to attempt to do so is to talk nonsense. From this it would seem to follow that one should refrain from such an attempt in enunciating a theory either of knowledge or reality, and confine one's attention to things which are in the relation Rc to E. At this point, however, Prof. Perry joins issue; and we must go into the matter more closely.

The conclusion which Dr. Bush draws from Prof. Perry's premises seems to me less directly open to objection than Prof. Perry's own. He tells us that one of three things must be done. Firstly, we may take the alternatives together; secondly, we may say that a solution is impossible; or thirdly, and we are told that this is the same as the second alternative, we may say that there is no problem of the 'logical type'. This result is not satisfactory, but it has the merit of not contradicting the premises; it admits in effect that there is no point in looking for further evidence to decide between $+ 2$ and $- 2$, if *all* we know is that $x = \pm 2$. Prof. Perry, if I understand him rightly, supposes that there is; and he offers what he considers relevant evidence. He obtains this by examining the nature of individual acts of thinking; discovering that no constitutive relation holds between things in general and the definite acts of mind which may apprehend them. But Prof. Perry himself has put this argument out of court; for he has carefully pointed out that we cannot obtain any case in which a thing is *altogether* free from the relation to a subject, and that when we compare a thing known to an individual with the same thing when and as unknown to that individual we introduce the relation to our own mind.[1] That is to say, Prof. Perry's evidence applies only to the case where E is a particular ego or act of knowledge, and not when it is a general term for knowing as such.

Prof. Perry's illustrations seem to me to be vitiated, if applied to

[1] *Journal of Philosophy*, etc., 1910, p. 8.

the wider interpretation of the situation, by the same confusion. The other predicaments which he places on a level with the egocentric one differ in that we can escape from them. I *can* know that English is not the only intelligible language, and I can take off coloured glasses. So, too, when he speaks of the existence of a star of the eighth magnitude depending on being *seen* through a telescope, or of a cell on being stained, he takes the relation 'Rc' in a limited sense.

Prof. Perry may protest that I am perverting his argument here; he may refer me to his view of the transcendence of the immanent, and so forth. And I admit that he is concerned to prove another point as well as the merely methodological character of the egocentric predicament. But he himself connects the two; at any rate it ought to be pointed out that the evidence and illustrations which he offers do not bear on the problem which he has set, *viz.*, the situation (E)Rc(T) where E and Rc are taken in their most general and abstract form.

Assuming then that, as Dr. Bush puts it, we cannot decide on the premises between + 2 and − 2, can we go any farther? Can we come to any conclusion regarding the alternative solutions which Dr. Bush suggested? It is difficult to see what is meant by the first one, *viz.*, that we should take all the alternatives together. Does it mean that we are to combine the statement that there are reals out of relation to knowledge with the statement that there are none? It may, however, be simply a roundabout way of saying that we cannot decide between the possibilities; just as $x = \pm 2$ is a compressed way of stating that $x = +2$ or -2 and that we do not know which. In any case it contradicts itself by speaking of absolutely unknown reals and making them an element in a theory. I think that Dr. Bush is right when he suspects that this is not a solution. The second suggestion is that the conditions themselves logically prohibit a solution. From this one would infer that the correct thing to do was to give the puzzle up; which would commit us, if we theorised any further, to dealing only with things within the relation (E)Rc(T)—and this, if I understand Prof. Perry, is a form of idealism. But Dr. Bush identifies it with the statement that there is really no problem of the 'logical type' involved. I think this last point is correct, but it must receive another interpretation than that which Dr. Bush gives it. So far as we have gone there is a problem: we have been offered two alternatives either of which, we are told, may be true. But one of these alternatives involves a contradiction, and is not logically open to us. The alternatives are, on the one hand, that everything is relative to knowledge, and, on the other, that some things are not relative to knowledge. Prof. Perry and Dr. Bush both assume that these things beyond the subject-object relation must be as at least possible. But we have no more right to speak of their possibility than of

their actual existence. The term A is a content of knowledge in the judgment 'A is possible' as well as in the judgment 'A is actual,' and the ego-centric predicament makes both judgments untenable where A is a thing out of relation to knowledge. Kant fell into this mistake before Prof. Perry did. After he had asserted that possibility and causality are categories applicable only to the world which could be apprehended by the understanding, Kant still tried to apply them to Things-in-themselves. Now and then he noticed that he was doing this, and corrected himself. The Thing-in-itself is a free cause—No not a cause, but something like a cause! Categories are inapplicable to Things-in-themselves, but they can be applied analogically! Such subterfuges show that Kant is not prepared to face his own conclusions. Similarly here, whatever we say applies only to things known, and never to things utterly unknown and *ex vi termini* unknowable. Fichte's reply to the Kantian position is still in point: 'You are able to *speak* of a reality without *knowing* it, without having it even dimly in your consciousness, and without appealing to the latter? You can do more than I. Lay the book aside: it is not written for you.'[1]

The outcome of the argument up to this point is as follows. Prof. Perry has maintained that the ego-centric predicament *may* have to be discounted, and he believes that it *must* be discounted and is prepared to offer evidence for that view; but we have seen that on his own showing no evidence is possible and that the predicament *cannot* be discounted. There is another contention, however, which we have still to examine. The proposition contained in the ego-centric predicament is a tautology, and from a tautology nothing follows. If this statement is true the situation is very tangled, and I confess that I do not see my way through it. It is nonsense to talk of things out of the subject-object relation—Prof. Perry admits it in effect—and yet we cannot draw that conclusion! I doubt this, and I suspect that Prof. Perry has fallen into a very ancient logical error. The statement which he is controverting is that everything is relative to knowledge. He points out that in order to prove this statement we must discover that the 'everything' of which we are speaking is relative to knowledge, and argues that we are dealing not with 'everything' *simpliciter* but only with it as qualified by the phrase 'relative to knowledge'. 'Everything relative to knowledge is relative to knowledge.' Jevons once urged that the predicate should be qualified by the subject, and that the form S is P should give way to S is SP; and if Prof. Perry's reasoning is sound the step seems a necessary one. If it is relevant to argue that in order to know S is P we must qualify S by P—and P by S—*every* judgment, so far as I can see, will be reduced to the form SP is SP; for in order to know that any judg-

[1] *Sonnenklarer Bericht*, *WW.*, II., p. 343.

ment holds we must know that its subject and predicate are related. Of course, the plain man—if there is such in logical matters—will protest that the terms are sufficiently qualified by one another in the judgment itself, and that it is not necessary to crush the whole judgment bodily into each bit of it: and the protest is justified. But in that case Prof. Perry's argument must also give way. If I say that this ink-bottle is perceived by me, I speak of a perceived ink-bottle; but I have done all that can fairly be demanded of me if I put the complex whole into a judgment, and not into a single term. Similarly, if I say, 'Everything is relative to a subject,' I am entitled to take the whole judgment to express myself. I submit, therefore, that this latter judgment, true or untrue, is not a tautology; and for anything yet said may be a step in an argument.

But I have been misrepresenting Prof. Perry; he does not really mean that this proposition is a tautology; he thinks that it is false. The truth is, on his view, that not 'everything,' but only 'some things,' is the proper subject, and the some things in question are to be characterised as things relative to knowledge. We have found, however, that this assumption is untenable; and the proposition which we can state is not merely that some things—*viz.*, known things—are relative to knowledge, but that all things are so. Hence the criticism of tautology applies not to the proposition which we do make, but to the one which we should make if an unsound supposition were accepted. The criticism, therefore, may be disregarded. The judgment we make asserts an identity between 'everything' and 'relative to knowledge'; and the identity is not tautological, for the terms differ. That we have to become aware of the identity in order to make the judgment does not cancel the difference; it is a general consideration relevant (or irrelevant) in the same sense to all judgments.

We may now turn to the bearing of the situation as we have analysed it on the issue between realism and idealism. It is obvious at once, and the point has been made already, that the predicament excludes the conception of the Thing-in-itself in the sense of an 'unknowable reality'. But there is a more important question: How far—if at all—does realism depend on the postulate of such entities. The impression which has been made on me by realistic writers of Prof. Perry's school is that there are two strains in their realism, one of which involves the postulate, while the other, *prima facie* at least, does not. Realism insists that the object of knowledge is independent of being known—this is its cardinal doctrine—and everything turns on the meaning given to independence. According to one interpretation, independence means in this connexion that the object known does not have certain specified relations to the knower: it does not contain the subject, nor imply it, nor is it exclusively caused or implied by it.[1]

[1] See Prof. Perry's article on 'A Realistic Theory of Independence' in *The New Realism*.

That is to say, independence is not the same as absence of relation in general; and accordingly it does not come into direct collision with the relation Rc which holds between T and E. Indeed, the analysis of knowing offered by this form of realism attempts to show that the relation Rc is not a case of dependence. Against this line of thought the arguments drawn from the ego-centric predicament are by themselves impotent. The realistic doctrine may be true or it may be false, when taken in this way; but it must be estimated on other grounds than the bare fact that *some* cognitive relation does hold between things and knowledge.

But, on the other hand, there is another tendency in realism which is not free from Things-in-themselves. It is borne witness to by Prof. Perry's attack on the ego-centric predicament in general. If he does not wish to assert Things-in-themselves, why does he offer such strenuous resistance to the effort to shut them out? He objects, too, to a doctrine which 'moves entirely within the limits of experience,'[1] and says that 'there is no reason for limiting "things" even to what can be experienced'.[2] I admit that these statements are made in close connexion with the first strain of thought which we have just mentioned, nevertheless they seem to me to go beyond it, and imply a conception of a Thing-in-itself which is not merely an element within the subject-object relation, unaffected by being there, but one which is out of the relation altogether. Prof. Perry has himself to thank if critics fasten on the second strain of thought when he would prefer them to discuss the first.

It may be, of course, that the realistic doctrine of independence cannot be carried out without involving statements about purely transcendent 'realities'; and in that case it is excluded. But this question involves a definite discussion of 'external relations,' and is not to be dealt with here.

The bearing on idealism follows from this. In the first place, the ego-centric predicament does not prove the direct dependence of anything for its existence on being known. A thing need not be known when it exists, but at another time. I may know now an event in the past, and, moreover, I may know that it was caused, and given existence, by a set of conditions among which my apprehending it is not included.

Secondly, the relation which things have to knowledge is not to be confused with a relation to any specific individual. The world is not necessarily limited to whatever may be known to some special being. It may be so limited, but the ego-centric predicament will not prove it.

Thirdly, the standpoint of experience is a legitimate one. Everything is in relation to subjectivity, and if we can make anything of that fact we are entitled to do so. The usefulness of the standpoint depends entirely on the nature of experience: if it is a purely

[1] *Present Philosophical Tendencies*, p. 314. [2] *Ibid.*, p. 316.

external relation of a subject to its contents—as realism believes—nothing regarding the nature of things follows from it. Nevertheless, the fact is there, and one has a right to assume it. Of course, if experience is not the external relation which realism suggests, consequences will follow; and idealism will have a legitimate source of material which realism neglects.

To sum up, we have taken up the ego-centric situation in the sense and within the limits which Prof. Perry suggested in his initial statement. He believed that idealism has misused the predicament by drawing an invalid conclusion from it; the truth being, on his view, that no conclusion whatever follows. I have not questioned his view of the part which the argument plays in idealism, although I must not be taken as agreeing with it; but I have argued that a conclusion does follow, and that the situation is not wholly tautological and barren. Prof. Perry thinks that idealism is disproved by the rejection of the inference that everything is relative to knowledge. The inference, however, is not, and cannot be, disproved; nevertheless, taken by itself, it is not cogent on behalf of idealism. The further issue concerning the nature of experience is the vital one, and Prof. Perry's contributions to it merit closer consideration than they have yet received. I agree with him that the analysis of mind is fundamental, but I suggest that idealism has presented a more detailed and coherent view in that connexion than he is disposed to admit. These questions, however, deserve a separate treatment, and fall beyond the scope of this paper.

HUGH A. REYBURN.

V.—CRITICAL NOTICES.

Einführung in die Ethik auf Grundlage der Erfahrung. By G. Heymans. Leipzig: Verlag von Johann Ambrosius Barth, 1914. Pp. vii, 319.

Prof. Heymans seems to me, in spite of his adhesion to some views which I find strange, to have written a very valuable and fresh *Introduction to Ethics*. His work deserves to the full the commendation given by Martineau to moralists who refuse to sacrifice their science to metaphysics on the one hand, or to psychology on the other. Unlike many treatises with similar titles, it really treats neither of metaphysics nor of psychology but strictly of ethics, and the present writer, at least, has found it always provocative of thought and often illuminating, in spite of its somewhat uninspired literary style.

After an *Introduction* dealing with the general character of the ethical problem and the method appropriate to its solution, Dr. Heymans discusses, in the two principal chapters of the book, the general character of moral judgments and the "criteria" of moral judgments; the volume ends with a comparatively brief, but very interesting chapter on the application of ethical theory to the actual conduct of life.

With the general attitude of the *Introduction* I am glad to find myself in complete agreement on all points of importance, though on one secondary matter which concerns the connexion of ethics with psychology I think Dr. Heymans' own expressions hardly do full justice to his meaning. Ethics is defined as the "Science of the Good (the moral) and Evil (the immoral)"; it "has to tell us what deserves to be called good or evil, whether universally, or under special conditions, or in a given case". Hence two things may be required from a final ethical system: (1) it must give us "clear and sharp distinctions between Good and Evil, *i.e.* ultimate criteria by which we can always distinguish the two," and (2) "must apply these criteria to the different given or conceivable relations of life". The former problem, Dr. Heymans thinks, is far the more difficult. If we once have really clear notions of good and evil, the application of them to particular cases will hardly give rise to any serious divergence of opinion. I confess I can hardly believe that the second problem is soluble by any science of ethics, and I

am sure that it is a much more difficult one than the author admits. Hedonism, for example, makes a perfectly sharp and clear distinction between what it regards as the good and what it considers evil; but Dr. Heymans surely cannot believe that because two Hedonists agree that the good is pleasure, there can hardly be any serious difference in the views they would take as to the proper course to be pursued in a given set of circumstances. Dr. Heymans' own reason for his assertion strikes me as a bad one. It is simply that however much two philosophers of the same age and civilisation may disagree about the fundamental questions of ethical theory, they commonly do not differ much in their estimates of the morality of particular acts. No doubt the fact is so, but I should say that the explanation is simply that philosophers do not, as a rule, arrive at their opinions about the morality of particular acts by deduction from their theories about the good. Like other men, they for the most part acquiesce in the practical morality of the serious and conscientious members of their society. They are already satisfied, *e.g.* that suicide or adultery is wrong before they have formulated a theory about the good at all, and if their theory, when formed, will not readily square with their moral code, they commonly prefer being illogical to giving up their moral code. (Thus even Mill, who claimed in theory for the Hedonist philosopher a considerable licence of innovation on the existing codes, in practice justifies adhesion to current moral rules by the ridiculously bad analogy of the useful "nautical almanac".)

I think, in fact, that the whole of what Dr. Heymans regards as the second part of a theory of morals, must really be the work not of a science but of common-sense, and I would suggest that he has been led astray by his unfortunate way of regarding the ultimate principles of ethics as "criteria" of the goodness and badness of particular acts. I do not believe in the possibility of such "criteria," and I am confirmed in my disbelief by the parallel with the ultimate principles of logic and æsthetics. Dr. Heymans speaks of these principles also as "criteria," but he must surely know that, to confine one's self to the case of logic, the ultimate principles of logic are not "criteria" of the truth or falsehood of particular propositions. In fact, there are no such "criteria". What all true (or all false) propositions have in common is just their truth (or their falsehood); there is no independent mark by which you may recognise a given proposition as true, other than its truth. And so with "good" or "right" actions. In the end there is nothing common to them all *but* their "goodness" or "rightness," and it seems strange to me that an author who insists so strongly as Dr. Heymans on the point that the ultimate data of the moralist are our own immediate verdicts on the rightness and wrongness of our acts should not have seen this.

The method of ethics—and here I am glad to find myself in complete agreement with Dr. Heymans—is the "Empirical-Analy-

tical ". That is, we have to start with the given fact that we do immediately judge some acts to be good in the peculiar and unique way in which we use that term in pronouncing moral verdicts, and others to be bad, just as we judge some assertions to be true and others false, some objects beautiful and others ugly. For ethics this immediate judgment of value is something behind which we cannot go. This does not mean, of course, that every such judgment is infallible, but only that the judgment " this is good " is primitive and unanalysable, and that there would be no meaning in a system of ethics for beings who had not the experience of passing verdicts of this special kind. The true method of ethics is analytical, not in the sense that it tries to analyse such judgments into simpler components, but that it attempts to classify them in groups of which each may be represented by a definite principle (such *media axiomata* as " veracity is good," " dutifulness is good "), and then to compare and classify these principles themselves under still higher principles. The method is, in fact, precisely that which Plato recommends in the *Philebus* as the only way to arrive satisfactorily at the " one " which contributes unity to a given manifold.

Dr. Heymans characterises the " empirical-analytical " method (which is, as I have said, really just the Platonic " analysis ") further as " psychological ". This I regard as unfortunate since it leads him to speak of ethics as " founded on " psychology, though in point of fact he does not mean by this language what it naturally suggests, that we can base a theory of the way in which we ought to act on mere consideration of the ways in which men do act. No one can be more outspoken than Dr. Heymans on the absurdity of such a procedure, and it is a pity that he should have used a terminology which, as he sees, lays him open to misunderstanding and compels him to repudiate the misconception at considerable length. His only reason for calling his method " psychological " at all appears to be that the passing of a moral judgment is a psychical act. Of course it is, but since what he regards as the material to be analysed is not the process of judging but the proposition asserted when I judge, the analysis is not really a psychological one at all. You might as well call a chemist's analysis of a new compound psychological on the ground that it involves mental processes on the part of the chemist.

I come now to the first of the chapters which make up the body of the book, that on " the moral judgment in general ". What distinguishes moral judgments from all others ? The combination of three features : (1) they are attended, when we make them, by a unique and specific feeling which is pleasant or painful, according as the judgment is one of approval or blame ; (2) they claim to be universally valid (*i.e.* to be admitted by every one) ; (3) they have a " volitional " side to them ; we wish to " reward " or " punish " the agent on whose conduct we pass our verdict, and this is what

distinguishes moral from *e.g.* æsthetic judgments. The objects on which they are passed are exclusively manifestations of the human will. This leads up to a discussion of the old question whether moral verdicts are passed on external acts or on something of which the acts are the mere outward expression. Dr. Heymans begins his examination of the question by defining the terms "inclination" (*Neigung*) and "motive". In his terminology a "motive" is a *Zielvorstellung* which awakens a wish. *I.e.* by "motives" he means the possible ends of action suggested to us by a given situation. "Inclinations" are the "general and permanent psychical dispositions (*Anlagen*) in virtue of which a motive arouses a wish." Thus an "inclination" stands to a "motive" as in the external world a *Naturkraft* (*e.g.* gravitation, electricity, etc.) to a cause. By its appeal to an "inclination" one of the "motives" contained in a given situation arouses a wish, or it may be several "motives," appealing to different "inclinations" arouse conflicting wishes; the finally resulting action is, to borrow a metaphor from mechanics, the resultant of our wishes. Hence to explain a man's behaviour we need to know (1) what "motives" the situation presents to him; (2) the relative strength in him of the "inclinations" corresponding to these "motives". The whole system of a man's "inclinations" in their relative degrees of strength is what we mean by his character when we say that his acts are the product of his motives and his character, and Dr. Heymans thus reaches the conclusion that, in the last resort, it must be "inclinations" which are the specific objects of moral judgments. What we judge cannot be the act, since most acts admit of more than one interpretation, and we judge of their worth according to the interpretation we adopt (*e.g.* we approve or condemn the same action according as we think it prompted by generosity or by vanity). And it cannot, of course, be the "motive," in Dr. Heymans' sense of the word, since this is contributed not by the agent but by the situation. What we judge, then, must be "the measure in which the agent has shown himself sensitive to the different motives presented to him," and that is determined by the "inclinations" which make up his character. In the main this seems a sound and careful piece of analysis, though it is disfigured by the unwarranted assumption that we can make a sharp distinction between "moral" and "egoistic" inclinations. This distinction seems open to both ethical and psychological objections. It cannot be ethically sound unless we are prepared to erase the noble name of *prudentia* from the list of the virtues, and the psychologist may reasonably criticise the assumption that our primitive inclinations admit of being called either egoistic or altruistic. And I may further note that it seems to be assumed that a man's system of "inclinations" is from the first a fixed and determinate thing, like the "unchangeable character" of which Schopenhauer had so much to say. This is, at least, incap-

able of proof, and the tacit treatment of it as beyond question seriously vitiates Dr. Heymans' subsequent discussion of Determinism.

Dr. Heymans next proceeds to consider the objections which a psychological Hedonist might make to his theory of the moral judgment. Such a critic would reject the whole doctrine, as *he* recognises only one primitive *Neigung*, appetition of pleasure and aversion from pain. Dr. Heyman's reply is that (1) even if the psychological Hedonist is right in his assertion that we only desire the pleasant, there is good ground to hold that in many cases "the pleasant" is only felt to be pleasant because it is recognised as morally good, and (2) that experience proves, what *e.g.* J. S. Mill virtually admits, *viz.*, that we may prefer a less pleasant, or even a positively painful, existence to a more pleasant. The objections of the psychological Hedonist are thus, at the very least, irrelevant. The next subject to be discussed is the "conditions of the moral judgment". Under this rubric Dr. Heymans considers at great length and with a good deal of acuteness the various circumstances which may be regarded as rendering a man free from moral responsibility for what he does. In many respects I find his discussion more careful and accurate than those which are usually allotted to the subject in the manuals of ethics. Thus I would especially commend the unusually thoughtful treatment of the question how far insanity relieves from moral accountability. I am quite in sympathy with the author's view that it cannot be laid down as a general rule without qualification that an insane person is *eo ipso* not accountable, *e.g.*, to take his own example, it would be unreasonable to hold that a man is not to be held accountable for an attempted rape on the ground that he is known to suffer from paranoiac illusions of persecution. I am, however, surprised that a writer who is inclined to take a rather rigoristic view in dealing with "ignorance" or intellectual backwardness as an exculpation should be as lax as Dr. Heymans in his treatment of the plea of "moral pressure". He is so ready to make allowance for the plea of provocation or extreme temptation that he seems to me (p. 75, first paragraph) to come very near holding that a man is hardly to be censured at all for what he does under such influences. Thus he says that in judging fairly of the moral guilt attaching to homicide under provocation, what we have to consider is (1) the severity of the provocation, and (2) the degree of "precision and completeness with which the probable consequences of the reaction were present to the agent's mind at the moment of his decision". Hence he would, I suppose, hold that if only the provocation were sufficient to make the homicide for the moment "blind" with rage, little or no blame would be due to his act. Does not Dr. Heymans forget here that, on his own showing, moral verdicts are passed on character, and that a character which can be easily disorganised to the pitch of homicidal

fury is a very poor one? We cannot have an "objective" scale of intensities of provocation: that certain provocations are to me very intense is itself a proof that I have not the right kind of character. On the other hand, I am very glad to see that Dr. Heymans absolutely refuses to allow "moral anæsthesia" to be pleaded in extenuation of wrong-doing As he says—and it was also the view of Aristotle—"if there is such a thing as a purely moral anæsthesia, *i.e.*, if there are men possessed of normal temperament and intellect, but entirely destitute of consciousness of the value of moral ends, this only means that they have no feeling for such ends, and are thus radically immoral"; it makes absolutely no difference to the case that we may be pleased to call such a degree of immorality "diseased" (p. 79).

Nearly fifty pages are next given to a very detailed discussion of the issue between determinism and indeterminism, both from a psychological and an ethical point of view. Dr. Heymans is a rigid determinist and attaches great ethical importance to the determinist doctrine; consequently his statement of the case is as good and thorough a presentation of the determinist view as can well be made, and I recommend careful study of it to all who are interested in the question. Personally I am doubly opposed to his conclusions. I do not see that it is necessary to raise the issue at all so long as one is dealing with strictly ethical problems, and keeps clear of metaphysics, and I am almost equally sure that determinism, even as presented by Dr. Heymans, evades the real difficulties. I suppose the reason why Dr. Heymans thinks the question ethically important is that he believes, as he says, that we assume rigid determinism as the basis of all our practical conduct. Here I am sure he is mistaken. In practice we do assume that with proper care it is possible to draw inferences about a man's future conduct from our knowledge of his past with considerable probability. We never assume what Dr. Heymans calls determinism, the view that with sufficient data such inferences would become certain. *E.g.*, if I did not think that it is more likely than not that respectable Life Insurance Societies will pay up the claims on them, I should not insure my life. But I need not wait to satisfy myself that "with sufficient data" I could infer as an absolute certainty that a given society will not become insolvent before taking out a policy with it. Or, again, unless it were possible to estimate the probability that a client will live to a given age, Life Insurance business could not be transacted at all, but if it were possible to know for certain how long an individual man will live, there would equally be no Life Insurance Companies. Their very existence depends on the fact that our expectation of life can be estimated with probability—but never with certainty. Now no indeterminist need deny that it is possible to make judgments about men's future conduct with a fair amount of probability if you know enough about their past, and, on the

other side, no reasonable determinist can maintain that we ever do know enough of any man's past to predict his choices before they are made with absolute certainty. On either view it is admitted that judgments with an appreciable degree of probability can be made, and also that no anticipation is so certain that it *may* not be disappointed. Hence for the practical purposes of life there is no necessity to settle the issue in either sense. Nor again need we decide the point for the purposes of ethics, so long as we keep our ethics clear of metaphysics. On Dr. Heymans' own view of the task and the method of ethics what we require from ethical science is simply the organisation and analysis of our moral judgments, and for the execution of this task it is enough to distinguish "responsible" from "non-responsible" action, as he has already done with much surety himself, without raising the "determinist" issue at all.

Again, I do not see that when he comes to the detailed discussion of the issue Dr. Heymans does anything to remove what is for me the deterministic stone of stumbling. Determinism means, he says, the doctrine that from a complete knowledge of the "antecedents" of an act of choice you could infallibly infer what the choice would be, because an act of choice, like any other event, is fully determined by antecedents. Thus he regards the rejection of determinism as equivalent to a denial of the validity of causal laws in the realm of human action and urges that the indeterminist has no real ground for making just this part of the universe an exception to the validity of the causal principle. Now, I cannot in the least follow this argument, which is, of course, not peculiar to Dr. Heymans, though he presents it with unusual lucidity and power. To begin with, I do not see that the principle of causality itself really says as much as Dr. Heymans makes it say. It does not *e.g.* assert that there are no uncaused events, or that every event is "completely determined" by antecedent events. I am sure, for example, that the causal principle by itself, does not exclude the possibility that there may have been a *first* state, or absolute beginning, in the realm of physical nature. This would then be a complex of events not "determined by" antecedents at all. Further, Dr. Heymans has not observed that, apart altogether from the question whether the "world had a beginning," *no* causal law asserts a relation between individual "antecedents" and "consequents": what they all assert is a relation between *classes* of antecedents and *classes* of consequents. This is a direct consequence of their universality. Since we can attach no meaning to a "law" which is not universal, and since also we have no reason to think that any "state of things" in its concrete entirety ever exists more than once, we must not formulate "causal laws" in such a way as this "*a* is always followed by *b*," but thus, "all states of things which include as one constituent a member of the class of *a*'s are followed by states which include as one constituent

a member of the class of *b*'s". It then becomes a very difficult task indeed to determine the precise boundaries of the "class of *a*'s" and the "class of *b*'s," and to discover what particular member of each class is correlated with a given member of the other. It is not to be lightly assumed that even the fullest knowledge would be enough to warrant the prediction of the whole detail of any natural process. Such prediction would be impossible even to the Laplacean "demon" unless we are prepared to make such gigantic assumptions as the following. The making of the prediction must depend on the solution of a *finite* number of equations, and the number of independent equations must be as great as the number of independent unknowns to be discovered; the process must never depend on the differentiation or integration of a function which cannot be differentiated or integrated. If the Laplacean "demon" found himself confronted in the course of his calculations by a single indeterminate equation, there would be an end of his ability to infer the details of the course of events unambiguously from even his knowledge of "antecedents". Now is it seriously suggested that we are justified in postulating that scientific investigation into nature will never lead to an indeterminate equation or an undifferentiable function? In point of fact, of course, scientific prediction never does aim at determining the concrete detail of a natural process in advance. What it does is always to forecast certain general characteristics of a process, leaving most of the detail indeterminate, and I can therefore see no reason to make the success of natural science a reason for denying the possibility of a thorough-going contingency in physical nature itself. You may *assert* that nothing would be contingent to the intellect of the "demon," but, for all I can see, your assertion must remain a mere assertion. *A fortiori*, the alleged possibility of completely detailed prediction in natural science affords no presumption in favour of determinism in ethics.

Again, I do not think it accurate to say that on the indeterminist view human life presents us with no such analogue as we should expect to causal laws. There is, as it seems to me, an exact parallel between the causal laws of natural science and the laws obtained by statistical methods in economics and the social sciences generally. In both cases our laws assert a relation between a *class* of antecedents and a *class* of consequents, and in both the method employed to establish the correlation is the same. Hence I do not see that any reasonable expectation that the moral sciences will furnish us with general "causal laws" is in the least affected by the rejection of determinism.

Further, Dr. Heymans, like most writers on his side of the question, seems to me to credit the indeterminist with a gratuitously absurd position which no intelligent indeterminist would take up. He imputes to the indeterminist the view that a man's behaviour is determined by something other than his "character,"

and the "motives" supplied by the situation in which he has to act. Of course Dr. Heymans has an easy task in demolishing a theory of this kind. But, since "determinism" is, by his own definition, the doctrine that our acts are "completely determined" by antecedents, any one who denies *this* doctrine is by definition an Indeterminist. It is not in the least necessary that he should complicate his rejection of determinism, *as thus defined*, by a superfluous absurdity. Thus while I have no quarrel at all with the doctrine that our choices are "determined" by our character, I certainly deny that they are "determined" by antecedents, and that for the simple reason that a man's character is *not* an "antecedent," a fact which exists, and theoretically might be known in its completeness, before he begins to act. Hence my reply to the determinists' claim that adequate knowledge of a man's character would theoretically enable you to say in advance how he would behave in any given situation, is that theoretically, as well as practically, such knowledge is impossible. You cannot tell for certain what a man's "character" is, until he has acted, for the simple reason that there may be features in any situation which prompt him to display some side of his character for the *first time*. Hence, though it may be true that complete knowledge of my character would enable you to say how I should act in a specified situation, you cannot have this complete knowledge unless you already know how I have acted in that special situation. Your predictions, to be certain, must always be predictions after the event. The determinist may possibly rejoin that while it is true that I cannot *know* the full truth about a man's character until I have learned how he has acted, yet this does not prove that the unsuspected strain in his character was not really there, though latent, before the act which first revealed it to me. But to this I should reply that (1) it is a mere *assumption* that every feature of my character as revealed in act at a given moment must have had a latent "pre-existence" as a "disposition". So far as the facts are concerned, it is equally consistent with them to suppose that a new modification of my character may arise for the *first time* in the very choice which reveals its existence, and (2) that I am at least strongly inclined to suspect the pre-formation theory in psychology to be as purely mythological as it admittedly is in biology. I am therefore not convinced that there is any reason to believe that our choices are "completely determined by antecedents". Unless we accept Schopenhauer's metaphysical dogma, we cannot regard our choices as wholly determined by our past character, since character itself is not something fixed once for all, but is itself made in and by the act of choosing. Thus I believe there is no reason at all to accept determinism apart from an unsupported metaphysical dogma, and consequently nothing irrational in not being a determinist. Dr. Heymans does his best to enlist sympathy for the determinist reading of the facts, but to my own mind only

appears to be successful when he is really surrendering the principle. Thus he tells us that all repugnance to the doctrine will vanish if we remember that it does not assert the *mechanical* determination of human choice (though if "determination by antecedents" is not mechanical determination I do not know what the latter phrase means), and that, after all, he only means that our choices are decided by our insight and the "strength" of our inclinations (where the ascription of a fixed "strength" to each "inclination" again introduces just the notion, to which common-sense morality objects, of the once-for-all fixed and unalterable "character"). What he never sees is that the *ethical* objection to determinism arises not from a desire to deny the connexion between character and choice but from this assumption that, having been once sent into the world with a given "character," I am hopelessly fettered to that character "for better or worse until death us depart".

In the end Dr. Heymans actually accepts this piece of Schopenhauerian metaphysics. He does the best he can, and much more than most defenders of determinism do, to meet the strictly ethical difficulties raised by his philosophical assumptions. Indeed, he goes so far as to say that he agrees with all that Martineau has urged on the libertarian side, with one reservation. Unhappily the one reservation is made about the very central issue. Where he parts company with Martineau is in his account of the "personal causality" of which Martineau said that it is "left over when my phenomena have told me the tale of what they are and do" (p. 109).

Martineau, says Dr. Heymans, regards this personal factor as acting *ungesetzlich*, we as acting *gesetzlich*. Of course what this means is precisely that Dr. Heymans regards personal character as something once for all given and unalterable, as, in fact, what Aristotle would have called a φυσικὴ δύναμις. Now on this point the evidence of facts is surely all in favour of Martineau. If we look at the history of a man's life with minds free from metaphysical prepossessions, nothing seems plainer than that a character always reacting on fixed lines is something into which we may grow under the discipline of life, something with which we may emerge from the process of "soul-making," but certainly do not take into the process with us. To credit a young child or even a young man with such a ready-made character is on the face of it a paradox—and a paradox for which no reason is given beyond what I have tried to prove a fallacious view of the nature of causal laws. If one is serious with the doctrine, one must clearly be prepared to deny *a priori* not only all possibility of an influence of divine grace on human personality, but even the reality of all growth of character. And I find it significant that in his review of ethical facts Dr. Heymans finds a place for remorse, but none for the genuine repentance which means "change of heart". Yet facts seem to provide plenty of instances of such a change, and it is the merest

dogmatism to assert that the new elements which seem to emerge from the change have really been there all along in a "latent" form. Dr. Heymans, in fact, goes even further with Schopenhauer than merely repeating the doctrine that character is unalterable. He also agrees with the sage of Frankfort that it is directly inherited, though he gives no reason whatever for this assertion beyond the mere pronouncement that it "must" be so (p. 122).

Consequently he has to accept the very cheerless view that if I "inherit" a bad character, I am damned for life to the hateful position of knowing my own moral worthlessness and being unable to remedy it. He tries hard, indeed, to show that there is nothing depressing about such a theory, but I do not think his arguments at all likely to bring much comfort to the man born "bad," especially as Dr. Heymans will not let this unfortunate off from full accountability for his "inherited" badness. But the facts of life seem to me kinder than some philosophers. We have [illegible] of instances to show that temperament may be congenital, but happily temperament is not character. The very irascibility which makes one man a nuisance to himself and to every one else may help to make his son or grandson the salt of the earth. Dr. Heymans forgets the significance of Aristotle's profound saying that none of our natural endowments is in itself good or bad, but goodness or badness is acquired by "qualifying" our activities. A hot temper, for example, may be "hereditary," but a hot temper is neither a virtue nor a vice; it furnishes the material for either according to the discipline it gets. And discipline is not all from without: if the facts of life are looked at impartially, it cannot be denied that there is such a thing as self-discipline.

Dr. Heymans next proceeds to discuss the notions of inclination, duty, virtue, and merit with special reference to the allegations of Kantian thinkers that moral value belongs only to acts not done "from inclination". I find a certain obscurity in his treatment of the question, caused by his habit of speaking of "moral" (*sittlich*) inclinations as a class which can be sharply contrasted with certain others. At times he makes the opposition one between "moral" and "egoistic," at other times one between "moral" and "sensuous" inclinations. To me it seems obvious that there is a serious defect in logical clarity about these distinctions. They can scarcely be meant to be equivalent, since it is needless to labour the point that, as Butler long ago showed us, the "particular affections" are not identical with "self-love". You may be a thorough-going "egoist" without being specially given to the sensuous satisfactions, and you may have a very great weakness for sensuous gratifications without being an "egoist". And again, it is not self-evident that there is necessarily anything "immoral" about acting either from regard for one's own interests or to obtain a sensuous gratification. On the former point I have said something already; as to the latter I will give one single illustration.

The enjoyment of a hot bath is distinctly a "sensuous" gratification, but it seems unreasonable to hold that it is in any way *unsittlich* to take a hot bath on occasion simply and solely for the sake of this gratification. The whole classification errs from neglect of Aristotle's warning that "feelings," by themselves, apart from the "qualification of the activities" to which they prompt us, are neither good nor bad. And there is really no such connexion as Dr. Heymans fancies (p. 127) between indeterminism and Kantian rigorism. The indeterminist holds that "free" will—in his sense of the word—is exhibited alike in right action and in wrong. Thus he has no logical obligation to hold the doctrine that because right action implies "freedom" only action against inclination can be right. Kant did, as a matter of fact, come very near to this position, but what forced him to it was not "indeterminism" (it will be remembered that he insisted on the rigid determination of man "as phenomenon," *i.e.*, of real action, as strongly as Dr. Heymans himself), but his refusal to admit any but purely formal moral principles. An indeterminism such as I have been pleading for in these pages involves no kind of fundamental opposition between duty and inclination. As against Kant Dr. Heymans scores an easy victory, which does not, however, depend in the least on his metaphysical determinism. Like others before him, he points out that the source of Kant's error lies in the assumption that "inclinations" (the "particular affections" of Butler) are all forms of the desire for pleasure. That Kant's hedonistic psychology of inclination is absurd is patent enough, but it should be equally patent that the confusion it commits is consistent with the completest determinism. Indeed, as the case of Bentham shows, the hedonist psychology is most naturally connected with thoroughgoing determinism. It is just the deterministe to whom it has usually seemed most obvious that we *can* only act to get pleasure or to avoid pain.

I think Dr. Heymans, though he is no Hedonist, suffers from the same weakness as the Hedonistic determinists, a desire to simplify the facts of the moral life until they become unrecognisable. It is true enough, as he urges against Kant, that dutifulness involves a *Neigung* towards the doing of your duty, just as pleasure-seeking involves a *Neigung* towards sensuous gratifications. But when Dr. Heymans, in discussing practical problems, talks of what the *Ehrenmensch* or the *Pflichtmensch* or the *Genussmensch* would do in given circumstances, I cannot help feeling a *Neigung* of my own to observe that these abstract types are pure creatures of theory.

Martineau's distinction between the "virtuous" and the "meritorious" is regarded as simply another form of Kant's distinction between inclination and duty, and arising from the same psychological error, the assumption that all "inclinations" are directed towards the getting of pleasure. As a criticism of Martineau this

seems to me unjust. Thus in a passage cited by Dr. Heymans himself Martineau illustrates his point by contrasting the superior merit of the "lie-a-bed girl who sets herself (I presume with imperfect success) never to be late" with the less meritorious though objectively more virtuous behaviour of her sister who cannot sleep after six o'clock. He can hardly have regarded inability to sleep after six o'clock as a form of pleasure-seeking! Thus I think it erroneous to say that when Martineau measures merit by the "strength" of the repressed "motive," he means by "strength" hedonic attractiveness. Dr. Heymans admits that if you drop the supposed hedonistic implication, the facts which Martineau has in mind do raise a serious problem. His own solution avoids the contrast of merit with virtue. If one man does a right act with difficulty which another accomplishes with ease, he says, the explanation may be that the desire to do the duty may be equally strong in both, but the first man has other desires which must be repressed if he is to act dutifully, the second has not. Or again, the first man's desire to do his duty may itself be feebler than the other's. In the first case, the man who does his duty after a struggle is at once both more virtuous and more meritorious than the second; in the second case, he is less meritorious and also less virtuous. Everything thus depends on the relative strength of the inclination to be dutiful as compared with other inclinations, and there is really no divergence between our estimates of virtue and of merit. This seems to me a sound analysis of the cases which Martineau propounds, but I cannot altogether follow Dr. Heymans when he adds that the case in which there is at once least of virtue and of merit is that to which "duty is done without any sacrifice of one's own *interests*" (p. 136; italics mine). There seems to be here a serious confusion of a man's "interests" with his passing desires. I cannot see why the moral worth of a good act should be supposed to be impaired by the fact that the agent believes the doing of his duty to be also his own highest "interest". And it is, of course, a mistake to forget that the pursuit of what I think my true *interest* may call for unremitting self-discipline and control of one's "inclinations". (As *e.g.*, when an invalid or valetudinarian regards it as his highest interest to accomplish a piece of serious scientific work and therefore submits himself to a strict rule of living which compels him to go without many social pleasures which he might otherwise have enjoyed.) I cannot help thinking that Dr. Heymans is here falling into the double error of first setting up a hard and fast distinction between my duty and my interest, and then assuming that every inclination which conflicts with duty is really a form of regard for my "interest"; this is a psychological confusion as serious as any he has noted in Kant or Martineau. Dr. Heymans' second chapter is given to a study of what he calls, by a misapplication of an old *terminus technicus*, the *criteria* (he means the ultimate principles) of moral

valuation. He starts from the assumption, to which I have already taken objection, that the "natural consciousness" intuitively recognises a division of *Neigungen* into *sittlich* and *unsittlich* and judges of the moral worth of a character by the relative strength in it of the two classes. A perfectly good man would be one in whom the "weakest moral motive" always prevailed over the "strongest egoistic motive," a perfectly bad man one in whom the "weakest egoistic motive" always defeated the "strongest moral motive"; every actual man has his fixed place on the scale of worth somewhere between these two ideal limits. (I have already explained why this classification of springs of action into "moral" and "egoistic" seems to me wrong in principle, and I need not enlarge further on the point.) Our current lists of virtues and vices are first crude attempts to generalise our moral judgments by specifying the *kind* of *Neigungen* which are respectively laudable and blameworthy. The business of ethics is to refine on these primitive crude generalisations by making our notions of the various *Neigungen* more precise, and assigning to each its precise degree of praiseworthiness or blameworthiness, to determine "not only which *Neigungen* are approved or disapproved by the moral consciousness, but the *degree in which* approbation or disapproval is bestowed" (p. 146). Martineau, whose classification Dr. Heymans subjoins, is commended as the only moralist who has seriously undertaken this necessary task, though his actual classification is rightly rejected as being in the highest degree arbitrary. (I subjoin an illustration of my own to illustrate the kind of arbitrariness of which Martineau can be capable. In Martineau's list "appetites" rank two places below "love of gain". It should follow, therefore, according to Martineau's doctrine, that the moral worth of an act depends on the place of its "spring" in the hierarchy, that it is always immoral *not* to prefer saving sixpence to any gratification of hunger or sexual desire, and again that Jacob proved himself morally superior to his famishing brother by striking so hard a bargain with him. But who really thinks avarice morally superior to even the most primitive kind of sexual love?) Dr. Heymans himself observes that the extraordinary complication of the facts makes it impossible to ascertain or estimate the worth of the actual "springs" of an individual's conduct by direct examination. Hence he proposes to abandon the whole attempt to proceed in ethics, after the Baconian fashion, through *axiomate media*. Our one hope of reaching a tentative arrangement of *Neigungen* according to their moral worth is to examine and compare the various hypotheses which moralists have framed about the ultimate principles of ethics. In the present state of moral science these hypotheses must be regarded as conjectural, but we can use them, as we use a physical or chemical hypothesis which has not yet been finally established. We may compare the ethical valuations demanded by these hypothesis with those which

we do actually make, and thus arrive at a provisional view of the probable worth of any given hypothesis. (Thus Dr. Heymans is, it will be seen, still true, apparently without suspecting it, to the Socratic-Platonic conception of philosophical method.) For purposes of classification he follows Paulsen in dividing ultimate ethical hypothesis into two groups, (1) teleological, (2) intuitionist, explaining that by teleological hypotheses are meant those which treat acts and inclinations as good or bad according to their consequences, and by intuitionist those which judge acts and inclinations by some intrinsic characteristic. The division thus corresponds, though with obvious differences, to Kant's classification of moral systems into heteronomous and antonomous. Two "teleological" theories are then subjected to careful examination, (1) Individualistic Hedonism, (2) Universalistic Hedonism, or Utilitarianism. (1) and (2) are to be examined solely on their ethical merits and independently of the doctrine of "psychological Hedonism," which, as we have seen, Dr. Heymans rejects. (Though, as he points out, the psychological doctrine, even if it were true, would not necessarily carry with it ethical Hedonism. "To will something and to approve of it morally are different things, and it would have to be proved that whatever answers to the end of our will is, or ought to be, morally approved" (p. 154).)

It is odd to find Dr. Heymans incidentally treating the great Greek moralists as Egoistic Hedonists on the ground that they held it to be always a man's highest interest to be virtuous. How many of them would have admitted the implied identification of a man's true interest with ἡδονή? I am afraid that Dr. Heymans' reading of the *Gorgias* (which he actually quotes) has been superficial, and I doubt if he can have read the *Philebus* at all.

The general arguments by which Egoistic Hedonism is refuted are of a fairly familiar type, but I may be allowed to quote one or two happy original observations. It is a well-taken point that the ordinary arguments for the doctrine, even if they were satisfactory, only prove that virtuous conduct is the surest means to my own pleasure, not that the pleasure-giving character of the virtuous act is the *reason* why it is morally approved, and that it is this latter proposition which should really be established. And I think Dr. Heymans right also in his observation that too much has been made of the argument based on the hedonic unsatisfactoriness of a life spent in pursuing the "pleasure of the moment". As he says, this argument tells in favour of self-control as against self-abandonment to a medley of discordant passions, but such self-control is not exclusively characteristic of the virtuous man; it may be practised in the pursuit of ends which we pronounce decidedly wicked. "Self-control and steadfastness . . . are no more simply identical with virtue than subjugation by passions with vice" (p. 160). It is an excellent retort to J. S. Mill's appeal to the estimate of "all competent judges" to have remarked that "in a certain sense it is

unfortunate that nearly all those who have tried to find a hedonistic basis for ethics have been rational, reflective, and virtuous persons," and in consequence have "presupposed virtue in their very attempt to give virtue a hedonistic basis" (pp. 165-166). And there is much acuteness in the contention that an Egoistic Hedonist has no right to take into account, in establishing his thesis, the pleasures and pains of the so-called social and political "sanction". For on the theory "good" *means* what promotes the agent's pleasure, but if, in a given case, this promotion of the agent's pleasure is due to rewards bestowed by society, we must remember that society only gives the reward because it is antecedently of the opinion that the agent's act is a good one. The very giving of the reward proves that society does not *mean* by a "good" act one which promotes the pleasure of the agent (p. 167).

Utilitarianism is discussed much more minutely in the longest section of the work (pp. 168-220) and with a thoroughness which deserves the highest commendation. Dr. Heymans examines separately the alleged "proofs" of the doctrine, and the worth of the doctrine in itself as a speculation. Mill's unfortunate quasi-proof is dismissed, as it deserves, as being little more than a verbal juggle, but a more careful examination is given to the argument of Sidgwick. Two points are specially considered, (1) the possibility of a psychological derivation of moral verdicts on conduct from awareness of its hedonic consequences, (2) the degree to which our actual moral verdicts on particular types of conduct are what we might expect them to be if they had a hedonistic foundation. As to (1) Dr. Heymans remarks with truth that the feeling-tone which accompanies an approving or disapproving moral judgment is not one of bare pleasure or pain, but has, as introspection will show, a perfectly specific character. It is unthinkable, therefore, that feeling of such specific character should be a mere reproduction of an original pleasure or pain in which this distinguishing character was not to be found. But if we neglect the specific *quality* of ethical feeling and attend only to its general pleasure-pain character, it is highly doubtful whether the utilitarian is right in assuming that there is any universal tendency to feel sympathetic pleasure or pain at the pleasure and pain of others. *E.g.*, the pleasure of another who has won the *grand prix* of a lottery is just as likely to cause me a painful feeling of envy as to give me pleasure, and again, unless I already feel moral disgust at the sight of oppression, it is not clear why I should "sympathise" with the pain of the wronged man rather than with the triumph of his oppressor. Yet again the common assumption of all the "proofs" of utilitarianism that "disinterested" approval of virtuous acts arises from a transference of feelings originally aroused by the hedonic consequences of acts to the acts themselves seems to be equally disputable. For we have no analogous cases to support the belief in such transference of approval from end to means. In all cases,

but the alleged one of our specifically ethical feelings, when the end to which an action was originally employed as a means ceases to be valued, the means ceases to be valued also, unless it has established itself as conducive to some new end. Thus fasting may have been approved originally as a means to the due performance of certain religious rites, but if persons who no longer attach importance to these rites continue to approve of fasting, that is because fasting is now regarded as conducive to some other end, *e.g.*, to the subjugation of sensual appetite. It is equally unintelligible why, if moral approval and censure are based on considerations of utility we should make the distinction we do between vice and intellectual error, which is no less bad in the utilitarian sense than vice, and why we should be most lenient with our censures in cases where there has been great provocation or temptation—*i.e.*, in just those cases where, on grounds of utility, it would seem that the heaviest social censure is called for to counterbalance the incitements to anti-social conduct. Finally, if utility is the source of our moral judgments, it is inexplicable why we should attach the weight that we do to intention and character; it should be the actual outward deed that should be the sole immediate object of moral valuation. Hence James Mill, who systematically refused to recognise any significance in "motives," and treated intellectual dissent from his own theories as moral obliquity was really the most consistent of utilitarians and by his very consistency reduced the utilitarian hypothesis of the derivation of morality to an absurdity.

It would, however, be possible to maintain the utilitarian doctrine of the moral standard independently of the theories of utilitarians about the alleged origin of the moral consciousness. Accordingly Dr. Heymans next proceeds to examine the question how far the deliverances of his own moral judgment, and of other men's as embodied in our current morality, are in accord with the logical consequences of the utilitarian principle. This section of his book seems to me particularly valuable. The general result is that the utilitarian doctrine has to be rejected as quite at variance with the spontaneous verdict of our immediate judgment of moral values. There is, of course, nothing novel about the conclusion, but Dr. Heymans deserves high praise for the freedom of his discussion from any trace of antecedent bias and for its remarkable thoroughness. In the main he is in accord with the classical judgment of Butler on the issue. Where utilitarianism fails is in its inability to give full recognition to our conviction of the ethical worth of justice, veracity, and chastity as intrinsically good independently of their efficiency in increasing the *Lustsaldo* of a community. I cannot doubt that he has made out his case on this point. Thus, to take one of his examples, it is clear, I think, that he is right in saying that, so far as utilitarian consequences are in question, voluntary celibacy and sexual "perversion" stand on

much the same footing, but equally clear that the unsophisticated moral verdict of the *orbis terrarum* makes a discrimination between them which the utilitarian cannot explain and has no right to explain away. The ground chosen here seems to me exceedingly well selected; the case is an absolutely critical one for the utilitarian theory, since the attitude of mankind at large towards "perversity" is only intelligible on the hypothesis that moral purity is directly judged to have an intrinsic worth quite independent of its hedonic results. About one or two minor points in the argument I do not feel so confident. I think, for instance, as against Dr. Heymans, that it would be possible to account on utilitarian grounds for the current conviction that courage is the "point of honour" for men and chastity for women. But on the main issues he seems to me to make a case which cannot be answered.

From the critique of utilitarianism Dr. Heymans turns to the examination of his second type of hypotheses, the "intuitionistic," *i.e.*, all those which regard moral judgments as based not on consideration of consequences but on an immediate conviction of the intrinsic worth of acts or *Neigungen*. He deals first and very satisfactorily with the "duty theories," according to which the only *Neigung* of moral worth is devotion to the dutiful as such; Kant naturally furnishes the typical example of such a doctrine, and Dr. Heymans' criticism is consequently devoted to a proof that the Kantian denial of moral value to all acts done from "inclination" is unsound. The next class of theories to be examined are the "æsthetic," and here I cannot but think the author's classification unhappy. What he wishes to controvert is the view that moral approbation rests exclusively on our æsthetic appreciation of the beauty of a character in which there is an all-round harmony between the *Neigungen*. As representatives of such a view he names Aristotle and Shaftesbury, neither of whom, in my own opinion, held the theory. In fact, I cannot help wondering whether Dr. Heymans has ever read either of these philosophers with any care. He seems quite unaware that the "arts" to the analogy of which Aristotle appeals are not the "fine arts" at all, but the "arts and crafts" of everyday life. In particular, he plainly does not know that the main analogy on which Aristotle relies is a medical one, since he actually appeals to the analogy of medicine to show that the "goodness" of a thing does not mean its "beauty". And a careful reading of the second book of the *Ethics* should have prevented him from urging such a criticism as that a vigorous and well-developed character may appeal to us on æsthetic grounds and yet be morally bad, and again from crediting Aristotle with the doctrine, which Aristotle denies in set words, that every virtue is "*equally* removed" from both of the vices between which it is said to be the "mean". Nor is Shaftesbury much better treated. It is assumed that by the "moral sense" Shaftesbury means something analogous to the sense for beauty,

and no notice whatever is taken of his view that the goodness of the virtuous man consists primarily in the harmony between "self-affections" and "public affections". Hence, open as Shaftesbury's theory is to criticism on other grounds, I cannot feel that it is affected by any of Dr. Heymans' contentions, and I strongly suspect that the author has got his notion of it at second-hand from some very untrustworthy compendium, which in all probability ignored the work of Hume, Hutcheson, and Smith about whom Dr. Heymans is curiously silent.

My suspicions are deepened by the discussion of the "logical" theories which attempt to find the peculiar character of vice in the falsehood of the convictions from which the bad man acts. Dr. Heymans seems to know only one version of this doctrine, that of poor half-crazy Wollaston, against whom he finds it easy to urge that his whole argument is a circular one. For Wollaston holds, *e.g.*, that the only reason why it is wrong to murder a man is that the murderer is implicitly making by his act the false assertion that his victim is not a man. As Dr. Heymans says, this presupposes that the murderer already recognises the wrongfulness of taking human life. If he does not, his act does not amount to a denial of the victim's humanity It may be a mere assertion in act of the true proposition that the murderer hates the victim or expects to make a profit by killing him. This is obvious enough, but had Dr. Heymans selected for examination the version of the "logical" theory given by Clarke or Price, he would hardly have scored his victory so easily. I am afraid that this also is a case of dependence on some not very satisfactory second-hand source of information. Dr. Heymans finally decides himself in favour of a general type of doctrine which he calls the "objectivity-theory". In principle this doctrine seems to amount to an appeal to the moral verdict of the duly informed "impartial spectator," since the author's main points are (*a*) that to form a right moral judgment we need first and foremost to cultivate the habit of mental detachment, to view our own "interests" and those of our immediate "circle" as impartially as though we were considering the case of any other being placed in the same situation, and (*b*) to refuse to give the "moment" an influence on our verdict for which we can find no rational ground. Thus in principle Dr. Heymans comes back after all to the position of Aristotle; his rule of impartiality as between one person and another, or one moment of time and another is virtually just what Aristotle meant when he said that the "right mean" is determined by the rule of the man of "practical goodness of intellect". In this result I fancy most of us would agree with Dr. Heymans, though there are some *obiter dicta* scattered up and down the pages devoted to the "objectivity-theory" with which it is hard to feel altogether content. Thus it does not at any rate follow from acceptance of the theory that we have no right to condemn outrages committed by "fanatics for an

idea, anarchists or suffragettes" (p. 254) as morally wrong. And though it is no doubt true that we often judge the conduct of others hastily and with imperfect knowledge, I think it rash to assert (p. 255) that in almost every case our verdicts of condemnation would be mitigated if we had fuller knowledge. It is at least possible that in many cases fuller knowledge might lead to increased severity of judgment, and I do not see how we can be sure that such cases form a minority. At least I am sure that there is a grave confusion of thought in the identification of suspension of judgment until fuller information can be obtained with the forgiveness of offences commanded in the Gospel. You cannot "forgive" an offence which has not been committed. The command to "forgive" does not mean that we are to reserve our opinion whether an offence has been committed. It presupposes that we have already judged and judged rightly that there has been an offence. To "pardon" only those of whom we do not yet know whether they have offended is no genuine "forgiveness". This is why real forgiveness is always a difficult thing, and why in the Gospel the commandment to forgive is made conditional on the penitence of the offender, whereas the command not to "judge" our brother is unconditioned. Dr. Heymans' forgiveness would be like Rowena's in *Ivanhoe*. "She forgives him as a Christian, that is to say, she does not forgive him at all."

The third and briefest part of Dr. Heymans' work deals with practical applications of moral theory to the conduct of life. As he rightly sees, very little can be won in practice from the attempt to use any speculative ethical hypothesis as a substitute for the immediate verdict of the "man of practical wisdom" on an individual situation. Something can, however, be said in a general way, about (*a*) the limits within which one man is justified in passing moral judgments on others, (*b*) the lines on which we may hope to educate ourselves and others into virtue. Much of what Dr. Heymans says about the fallibility of one man's judgments about another is common ground to all moralists; his own way of meeting the difficulty does not seem to me altogether satisfactory. He proposes that, in judging the conduct of others, we should eliminate as lying outside the scope of ethics both the "intellectual" and "temperamental" factors. If we do this, we are left with the "factor of character," and as regards this a judgment on others is as valid as a judgment on ourselves. Of course it is admitted that in actual practice it will usually be a very difficult thing to eliminate all intellectual and temperamental "factors". But is it clear that the elimination is possible even theoretically? Is it so certain that we do not regard certain excellencies of intellect, *e.g.*, a sound insight into the real issues raised by a situation, as themselves valuable *moral* assets? Do we not, *e.g.*, in comparing one age in history with another, regularly regard increased clarity of vision on moral issues as itself an important feature of *moral* pro-

gress? And, again, do we not with Aristotle hold that "ignorance of the universal" in morality is an indication of badness of character? Can it plausibly be held that we never pronounce a man of clearer ethical insight "better" than his more myopic contemporaries, or again that when we do so our verdict has not the specific character which Dr. Heymans finds on analysis peculiar to the *moral* judgment? And, again, is it possible to draw a hard and fast line between "temperament" and "character"? Can we, *e.g.*, make a sharp distinction between "temperamental" cowardice, which does not, and "moral" cowardice, which does, deserve censure? If you try to make these distinctions absolute, are you not driven to regard mere conscientiousness as the only virtue, a view which Dr. Heymans himself expressly disavows in his treatment of Kant? And what is more, on a rigidly deterministic theory like the author's is there not a fundamental unreason in holding a man "not responsible" for the defects of his intellect or temperament but absolutely responsible for those of his "character," if indeed anything is left of "character" after the elimination of everything which can be put down to "intellect" or "temperament". On the theory, my "conscientiousness" must be just as much a fixed "inheritance" as any other of my qualities. And all judgments about moral progress seem to me to fall into complete confusion if you insist that any man who acts "up to *his* lights" must *ipso facto* be considered perfectly virtuous.

More interesting are the author's views on the scope within which moral education is possible and the methods which it should employ. He begins his argument (p. 298) by the usual protest against the popular theory that moral education would be impossible if determinism were true. I agree with him in regarding this assertion, in the sense in which it is commonly made, as mistaken, but I do not think he has exposed the real nature of the mistake. He thinks the popular objection adequately met by saying that determinism is not fatalism. This seems to me a wholly inadequate rejoinder. It is true that determinism is not fatalism, if by "fate" you mean a vaguely imagined being outside the world of events. But it is equally true that a determinism like that of Dr. Heymans, by making my "character" a mere resultant of "heredity" and external circumstance, is just as hostile to all admission that *I* have anything to do with making my own character as any doctrine of predestination. "Heredity" in Dr. Heymans' system does everything that others have ever supposed "God" or "Fate" to do, and it is really an illusory deliverance from my bondage to be told that my tyrant has changed his name. For all practical purposes a really consistent determinism *is* fatalism as the common sense of mankind has always understood. The real answer to the criticism that determinism is incompatible with the reality of education in conduct is that, on the theory, the education process is real enough, but like all other processes, is "determined". We

do advance, but it is on lines already laid down for us and towards a goal which, though unseen, is already "determined". So far, the reality of moral education is consistent even with avowed fatalism, though whether such a view of the limits to the possibility of moral education is as consolatory as the determinist thinks is a different question.

It is characteristic of the author that in discussing the question of the means to moral education he begins by denying all vestige of moral value to the "utilitarian" sanctions. Rewards and punishments are not means to moral education, because "so long as a man cares only for his own well-being" it makes no difference to his moral worth in what kind of life he believes his well-being to consist (p. 299). This seems to me far too sweeping a conclusion, and it results, as I think, from a faulty psychology. Surely there *is* a moral difference between a man who regards the service, *e.g.*, of his King and Country as his *eigenes Wohl*, and one who finds it in amassing a fortune or seducing girls. In fact, it is nonsense to speak of the former man as caring *only* for his own well-being at all, though it may be quite true that he does not regard the discharge of public duty as the pursuit of something which is *not* his *eigenes Wohl*. In the main, however, Dr. Heymans is no doubt right in laying the principal stress on rules of action intended to secure "the fullest possible knowledge and most extended efficacy of moral motives". In developing this conception he attaches great importance to the distinction between two types of men, the *Primärfunktionierende* and the *Sekundärfunktionierende*, *i.e.*, men who act impulsively and men who habitually act from reflection. In the case of the latter he seems to hold that no moral improvement to speak of is possible, on the ground that their conduct is already in the main fully expressive of a fixed character. Hence, though they may recognise that this character is imperfect, the recognition will not lead to any serious change of conduct. The "primary type," on the other hand, are constantly acting on impulses which are not fully expressive of their character, and may consequently be improved by any methods which "replace or complete the missing or inadequate secondary functions by fixed associations" (p. 303). *E.g.*, they may train themselves to delay acting until they have had time for consideration, may consult the advice of trusted friends, may try to make the spirit of a historical or legendary exemplar their own, and the like. Of course Dr. Heymans does not think so crudely as to suppose that any of us is wholly a "primary" or wholly a "secondary". Yet it seems to me that his treatment of the case of the man who is preponderately a "secondary" is vitiated by the abitrary assumption of the immutability of character. However much reflection may preponderate over impulse in such a man, it strikes me as unduly pessimistic to hold that the knowledge of his own faults will never lead to their amendment. Dr. Heymans himself, in spite of his

determinism, recommends the "primary" to check his faulty impulses by diverting his attention from the "motives" which appeal to them. If this voluntary control of attention is possible at all, I cannot see why it may not equally be practised as a moral discipline by the "secondary". Why is it not open to him to refuse to let his reflection follow certain lines? I certainly believe myself to have done this with some success in relation to certain topics, and I should imagine that others can say the same of themselves.

Another matter in which I find it hard to follow Dr. Heymans is his treatment of the training of children to obedience. He thinks it absolutely wrong in principle ever to tell a child to obey a rule without either giving him a reason or making him comprehend that he is at present too young to understand the reason for the rule. You must never say to a child who asks why he should do as he is told, "because I tell you". To do so is to teach the child to "bow before might as such," and breeds *Sklavensinn* (p. 307). Here again I think the psychology defective and the conclusion too sweeping. In adult life we all have frequently to obey rightful authority without demanding reasons for its commands on many occasions, and it therefore seems to me quite reasonable that we should be inured to such obedience betimes. I do not mean, of course, that children should *never* be told the reasons for the commands given by their elders. But I am sure that a child who always declines to obey until it has been either given a reason or satisfied that the reason is only withheld because it is provisionally "too young to understand it" is receiving a faulty preparation for a life in which the commands of a lawful authority have so often to be obeyed, just because they are commands, as, *e.g.*, when it is our duty to obey the law, so long as it is the law, even though we may be strongly persuaded that it stands in need of improvement. Also I do not believe that the child who obeys his parent or schoolmaster without asking for reasons is "bending before might as such". The truth is children learn very early to distinguish between "might as such" and what appears to them rightful authority. A boy does as he is told by the Head Master or the Captain of the school, not simply because these personages are strong enough to thrash him, but because they are the "Head" and the Captain. A big bully may, so far as "might as such" goes, be much more formidable than a "prefect," but a schoolboy's attitude towards the two is very different. He will defy the bully where he would not think of disputing the orders of the prefect, simply because he accepts it as part of the proper order of things that one should do what the prefects, or "the Sixth" say. And I believe the same thing to be true of obedience to parents. The view that "natural selection" can be trusted to lead to moral improvement is rejected for good and sufficient reasons, but Dr. Heymans bases very high hopes on "artificial" selection. He is

greatly impressed by the danger to morality suggested by the alleged fact that the average number of children in the "families of criminals" is 6·6 as against 5·5 for "normal" families, and regards it as an immediate social necessity to take stringent measures to correct this dangerous anomaly. I think statistics of this kind less trustworthy than Dr. Heymans supposes. Since "criminality" is generally judged of by the number of convictions for breaches of the law, it is, I think clear, that the statistics of "crime" will be swollen by including hosts of persons in poor circumstances whose offences against morality, though not in themselves serious, lead to appearances before the magistrates, while, on the other side, the wealthy scoundrel, whose riches and education enable him to do enormous mischief without actual violation of law, will figure among the morally "normal". Thus, *e.g.*, a thoroughly decent set of fellows may be counted among criminals on the strength of conviction for poaching or for minor assaults in street fights, while the clever rascal who thrives by fraudulent company-promoting will be set down as a law-abiding citizen. Hence I am very doubtful how far statistics of this kind are a really satisfactory indication of the moral condition of a nation. Dr. Heymans' own theory is that the principal source of all moral improvement in the race is to be found in sexual selection. He argues that *ceteris paribus* persons with superior moral qualities are preferred as husbands or wives, and he tries to confirm this view empirically by statistics collected by himself to prove that on the average married persons show a certain superiority to the unmarried in a variety of characteristics ranging from tolerance to punctuality. (I do not know the method by which these figures were obtained, but I should myself have thought it almost a hopeless task to devise a satisfactory experimental measure of tolerance or "harmony between thought and action".) He then argues that, since we have here to deal with a "force which acts continuously," the effect of even a slight sexual preference for persons of good moral character must in the end be to elevate the average of morality in the community beyond all assignable limits, and that the chief problem for social reformers must be to modify existing social conditions in such a way as to prevent differences of rank and means from counteracting the beneficial tendencies inherent in sexual selection. The suggestion is attractive, but I am not sure that Dr. Heymans is not overlooking two rather important considerations. Even if one accepts his statistics, they do not in themselves prove that sexual selection has a moralising tendency. Apart from the dogma of the immutability of character, it would be most natural to suppose that any moral superiority of the married to the unmarried has been simply produced in the individual by the educative discipline of married life. As an acquired characteristic this superiority would presumably not be "heritable". And again, in respect of physical characteristics the general tendency

of " selection " seems to be not to augment a peculiarity indefinitely but to result in the establishment of a relatively fixed mean. Why then should we suppose that sexual selection is any more likely to lead to an indefinite increase in human virtue than to an indefinite increase in human stature or good looks?

A. E. TAYLOR.

The Political Writings of Jean Jacques Rousseau. Edited from the original MSS. and Authentic Editions by C. E. VAUGHAN, M.A., Litt.D., Emeritus Professor of English Literature in the University of Leeds. In two Volumes. Cambridge: at the University Press. Vol. I., pp. xix, 516; II., 577. Price 3 guineas.

THE whole body of Rousseau's political writings is here for the first time collected together. Part of them were scattered over four or five volumes of the *Works;* part had been separately issued within the last sixty years. Of the latter are the *Projet de Constitution pour la Corse*, the first draft of the *Contrat Social*, and "a variety of fragments, some of great importance". In addition, these volumes contain some twenty-five pages of fragments which have never before seen the light.

The work of collection and revision has been to Mr. Vaughan a labour of love. He has been prodigal of time and industry in collating editions and manuscripts, in detecting errors of previous editors, and in reproducing variants. He modestly hopes that he has made some progress towards placing before the reader what Rousseau actually wrote. His long general Introduction, together with the numerous special Introductions to particular works, give full information as to the ascertainable date of each and the conditions of its production and preservation, and also take us deep into Rousseau's political philosophy, of which Mr. Vaughan is a profound though not uncritical admirer.

The labour which he has expended seems to me to be thoroughly repaid. It is not that hitherto the student could find no single book that indicated the compass of Rousseau's political work. Even the little popular volume, with the two *Discours*, the *Contrat*, some letters, and the *Gouvernement de Pologne*, bore witness to its comprehensiveness. And M. Dreyfus-Brisac's fine volume,[1] the *Contrat Social*, with its eleven Appendices, furnished in the shape of extracts a great part of the material which Mr. Vaughan has here presented more completely.

Nevertheless the present edition produces a new effect. Seeing the whole of the work together, all the variants, all the fragments,

[1] It should be borne in mind that the price of this volume is only 12 francs.

all the alternatives, considerations, and reconsiderations, which the author's mind was continually traversing, we acquire I think almost insensibly a new conception of Rousseau. New epithets force themselves upon our mind; we are no longer satisfied with "original," "imaginative," "penetrating," "rhetorical". We are compelled to add unexpected qualifications such as "persevering," "industrious in study," "sagacious," "sane," "adaptive". Setting Plato aside, I do not think it would be easy to produce a mass of political writing by a single author of more comprehensive and substantial value. Mr. Vaughan comes to him from Burke, yet particularly for considerateness and concreteness he gives Rousseau the palm.

No doubt the circumstances of to-day incline us to read him more sympathetically and I should add more justly, than we used. Our mood is more akin than in ordinary times to the intensity of feeling in which he lived.[1] Also, his treatment of the rights of war and his attention to the conditions of securing permanent peace bring him very near to us. The brilliant fragment "L'État de guerre," in which Mr. Vaughan has effected an important rearrangement of the text, maintains the doctrine afterwards embodied in the *Contrat Social*, that war is a trial of strength between States (and not, as *e.g.* in Hobbes, a hostile relation of individuals). The present writer remembers to have seen it laid down *totidem verbis* in an order of a Japanese general during the Russo-Japanese war.

His treatment of the Abbé de St. Pierre's project of a league of peace is an essential step in the development of this conception. It is remarkable to us that he held it necessary for the League to guarantee the internal constitution of States as well as their external security. I think there is a good deal of truth in this. Rousseau was greatly attracted by the idea that as long as communities were isolated, man's social task was only begun. I shall return to this point.

In the general Introduction Mr. Vaughan approaches the question of Rousseau's position in the history of Political Philosophy. He views him principally as the first modern supporter of Collectivism against the individualism of Locke and his followers, a supporter who was in fact, so wholly were the great Greeks for-

[1] Here is a passage from the "Économie Politique," on graduated taxation, which, I take it, chimes in with our feeling to-day, though at other times it might have seemed extravagant. "Celui qui n'a que le simple nécessaire ne doit rien payer du tout; la taxe de celui qui a du superflu peut aller au besoin jusqu'à la concurrence de tout qui excéde son nécessaire. A cela il dira qu'en égard à son rang ce qui serait superflu pour un homme inférieur est nécessaire pour lui. Mais c'est un mensonge; car un grand a deux jambes ainsi qu'un bouvier, et n'a qu'un ventre non plus de lui. De plus, ce prétendu nécessaire est si peu nécessaire à son rang, que s'il savait y renoncer pour un sujet louable, il n'en serait que plus respecté. Le peuple se prosternerait devant un Ministre qui irait au Conseil à pied, pour avoir vendu ses carrosses dans un pressant besoin de l'État."

gotten, a true originator. Also he is concerned to point out how great was Rousseau's persistence and achievement, contrary to common opinion, in the reconciliation of abstract principle and concrete adaptation, and sketches his phases of development, as corresponding, on the whole, to the successive influences of Locke, Plato and Montesquieu, from crude individualism—I presume—to abstract collectivism, and from abstract collectivism, again, to expediency and concrete adaptation. More particularly he holds that the state of Nature and the formal Contract are alien elements in Rousseau's attitude, which he came very near to casting away. Without them, allowing something to force and a great deal to time, and admitting instead of rejecting the conception of progress, he might have thrown off altogether his Lockeian individualism, and have presented to the world an unambiguous political collectivism [1] as a single coherent doctrine.

In the main, and as against all who claim Rousseau as an individualist—as a champion of pre-social rights in the individual—I hold this estimate to be true. If we do not count the Greeks, Rousseau was the originator of what is sound in modern political philosophy; and their influence was exercised largely through him I hope that Mr. Vaughan's great edition will bring this home to many generations of students.

Yet there is much in the Introductions which in my opinion might be better formulated. It is hopeless in a review to deal with a hundredth part of the problems which Rousseau has raised and Mr. Vaughan has emphasised. I will state one question of central interest, and attach some comments to it.

Why did Rousseau omit from the definitive edition of the *Contrat Social* the chapter "De la société générale du genre humain," which forms ch. ii. of Book I. in the draft version of earlier date? The chapter is an answer to Diderot's article on "Droit Naturel" [2] in the *Encyclopédie*, citing it at some length and adopting its phraseology. It is directed to show the absurdity of conceiving a "general society" after Locke's fashion, in a state of nature; in which, prior to political union, rights are recognised, and a Law of Nature rules. Mr. Vaughan attaches great importance [3] to this and other but minor differences between the draft and the definitive version. For he holds Rousseau's reason for the omission to have been that he saw his own destructive criticism of Natural Law to be fatal to the sanction of the Social Contract, and therefore to cut away the foundation of his entire theory of civil society. At the same time, he considers Rousseau would have done better to

[1] Collectivism, I gather from a remark of Mr. Vaughan's, is not used by him in its economic reference; although he is able to show decided anticipations of socialism in Rousseau's ideas.

[2] Mr. Vaughan greatly assists the reader by printing Diderot's article *in extenso*.

[3] Herein differing from M. Dreyfus-Brisac.

hold to his criticism, to banish the state of nature and the contract from his theory, and supply their place as indicated above.

It occurs to me as a sufficient reason for the omission that the chapter would be unintelligible to a reader without reference to Diderot's article. But some further points of interest arise.

Diderot's article represents natural right as the dictate of the Law of Nature through "*the general will*" of the human race and the instinct of the animal world. It is an extraordinary thing that so far as the texts reveal we have here in this alien argument the first usage of Rousseau's famous phrase. But for the references which show the article to be prior not only to the *Contrat Social*, but to Rousseau's paper "Économie Politique" in which the same expression occurs, one would naturally have supposed that Rousseau, who in the last-named article uses *volonté générale* and *volonté publique* indifferently, was simply developing his expression out of Locke's "public will". As it is, unless Diderot borrowed previously from Rousseau in some way we cannot trace, the paternity of the famous formula belongs to Diderot in speaking of the general society of the human race.

But this suggests a further reason for Rousseau's omission of the chapter. There are indications that he was uncertain which way to deal with the "general society" of the human race. In the chapter in question there are two cancelled paragraphs which suggest, though they reject, the possibility of treating the human race as a community with a general will.[1] The same idea occurs in the "Économie Politique" expressly as a development of Diderot's article. "The great city of the world becomes the body politic, of which the law of nature remains the general will." A further sentence[2] in the first draft of the Contract accents the same possibility. It is obvious that in face of such a suggestion Locke's conception of princes as in a state of nature towards each other acquires quite a new significance. No doubt, as Rousseau points out, such a development though outside municipal units would not be prior to them. Yet it is a development of the Law of Nature which coheres with his subsequent interest in Peace Leagues and Federation. And he might not care decisively to exclude it. It is, I presume, of the highest interest to us to-day.

And I think it is a pity to convey the impression that Rousseau in the chapter in question "refuted the idea of natural law". What he refuted was the conception that man in a very early state could be conscious of the Law of Nature, except perhaps through his feelings. But to the Law of Nature Rousseau appeals, for instance, in the famous four words of the Contract, "Man is born

[1] I hold strongly, what Rousseau seems here to affirm, that if the human race is to have a general will, it must develop the character of a real community.

[2] Cited by Mr. Vaughan, i., 107; this sentence, like the draft chapter, was omitted from the definitive edition.

free"—that is, as Locke explained of children, born *to* freedom freedom is the "quality of man," practically the same, as again Locke had explained, with his "equality," his capacity for ordered self-government, which makes arbitrary rule in his case always precarious and unwelcome. Rousseau is faithful to the Law of Nature through his whole career from the second discourse to the "Government of Poland".

This leads to a further point. Is it the case, as Mr. Vaughan holds, that the famous sentences just referred to are a call to revolution; that they pronounce illegitimate nearly every existing government? This would be the case if the Contract were held to be a historical event which must have happened in order to the legitimate derivation of any state, or even to imply a constitution with perfectly rigid and determinate marks, such as those laid down in the following chapters. It does not seem to me to have either of these features. It seems to me to be the analysis of the character by which a community is a community, in virtue of the "quality of man". If so, though Rousseau might have dropped the state of nature and the contract, he could not have dropped the analysis of man's social character; and the width of the application of his analysis, though veiled under the form of the contract, is proved by the fact that he extends it to all civilisation in which man's moral nature is revealed. I think therefore that Rousseau represents himself truly when he says that he "has justified all governments". And yet it is obvious that he is ready, as a rule, to condemn any one of them.

The solution of this paradox takes us to Mr. Vaughan's reiterated affirmation that Rousseau did not believe in progress. Space will not permit me to argue the point in detail; but I am clear that out of his own mouth he can be shown to believe in progress as under many conditions inevitable (see *e.g.* the Second Discourse), but to believe in deterioration as inevitable also. The two opinions can be shown side by side throughout the whole of his thought. And is he not right? Is not progress in good a necessity of man's nature, if conditions permit it at all to develop, and is not progress in evil a necessity which accompanies it? I do not believe that Rousseau changed his mind from six months to six months on such questions as the merits of private property.[1] I believe he saw it to be a contrivance by which certain advantages were bought at the cost of certain abuses, that the two aspects were continually together in his mind, and that either might be expressed according to context.

Many interesting questions arise before me, but I must break off. I will, however, express a regret that Mr. Vaughan should have veiled his valuable discussions under the modernised phrases of "collectivism" and "individualism". So far from an antithesis, these terms rather suggest an identity. A collection means a col-

[1] I., 104.

lection of individuals.[1] And this is important, because it affects the conception of Rousseau's relation to his predecessors and his successors. He should not, I venture to suggest, be set against Locke or Fichte, as Mr. Vaughan tends to set him. It is a question of passing from a phase in which *both* whole and members are loosely conceived as in Locke, and still in part in Rousseau, to a more intense unity in which both whole and individuals are conceived at a higher pitch of fusion and both, therefore, with heightened powers and qualities. Locke and Rousseau are on an ascending slope, and Locke is in Rousseau miraculously transformed, though the latter has hardly a phrase that does not come from the former. But the great Germans are, so to speak, over the watershed, beyond the point of fusion. They have seized the "quality of man" and founded their community upon it, and their "individuality" is not opposed to unity, nor their absoluteness to liberty and humanity. I do not deny that much seems harsh and hard in Fichte's views. But I do think that on the whole he is misconceived by Mr. Vaughan; and I especially regret the disparaging treatment of what is to my mind the noblest exhortation ever addressed to a community in the hour of its disaster, the "Reden an die Deutsche Nation," which calls upon them to create a spiritual world, in order to redress the balance of the material one; and that spiritual world was to be rooted in an education akin to the ideas of Rousseau.

To conclude, as an instance of Rousseau's profound insight, I will mention a remark from one of the fragments, "An action to be good, must be good in all its relations; to be bad, it only needs to be vicious in a single respect".[2] This I take to be the real point of Aristotle's doctrine of the mean.

I ought to add that Mr. Vaughan explains in a careful study Mrs. Macdonald's rehabilitation of Rousseau's personal character, which he accepts in the main. Am I wrong in thinking that Mrs. Macdonald threw doubt on the story of Rousseau's children, about which Mr. Vaughan shows no sign of scepticism? I wish he would take an opportunity of dealing with the matter.

I take leave of his excellent book with a strong feeling of gratitude and respect.

[1] So Rousseau, i., 449, "Idée purement collective, qui ne suppose aucune union réelle entre les individus qui le constituent".
[2] I., 336.

BERNARD BOSANQUET.

VI.—NEW BOOKS.

Proceedings of the Society for Psychical Research. Part 71. December, 1915. Pp. xix, 657. 12s. net.

THE whole of this bulky volume is occupied by a monumental *Contribution to the Study of the Psychology of Mrs. Piper's Trance Phenomena*, by Mrs. Henry Sidgwick, which may be regarded as the final 'clean-up' of this remarkable case of what we must still, for lack of a better name, call 'mediumship'. When Mrs. Piper's trances came to an end in 1911 and she retired on a pension very properly voted to her by the Society for Psychical Research, she had been under scientific investigation far longer and more thoroughly than any other 'medium,' had given an enormous number of sittings and had been observed, reported on and discussed by investigators of the eminence of William James, Richard Hodgson, Andrew Lang, Sir Oliver Lodge, Professors W. R. Newbold and J. H. Hyslop, Mr. J. G. Piddington, and last but not least Mrs. Sidgwick herself. It might have been supposed, therefore, from the long list of papers cited in the preface to the present Study that not much remained to be said about Mrs. Piper's phenomena. But the published papers had been concerned primarily with describing and testing the apparently supernormal knowledge exhibited in the Piper trances, and secondarily with the question whether it should be ascribed to communications from the dead. The multitudinous questions of a psychological order which arose alike whether the phenomena were ascribed to communications from 'spirits' through Mrs. Piper's body or to interactions between different strata of her personality *inter se* and with the minds of the sitters, had only come up incidentally. It was known also that Richard Hodgson, who had after prolonged and intimate study convinced himself of the greater probability of the spiritist interpretation, had accumulated a great mass of records of sittings which had aimed at elucidating scientifically the nature and conditions of spirit-communication. After his sudden and untimely death in 1905 no one was found capable of carrying on his work, and no account of this material was consequently published. Mrs. Sidgwick, therefore, both in undertaking a critical examination of the unpublished records and in discussing the whole material from a psychological point of view has performed a plain but difficult and laborious duty which was incumbent on the Society for Psychical Research, and has done a great service to science.

For her Study is a very fine piece of work, and by reason of its thoroughness, candour, calm and open-mindedness a model for all inquirers into these perplexing phenomena. Its conclusions will not indeed please the extremists on either side, or satisfy the hasty and superficial who desire a final pronouncement on problems which true science is only just learning to approach. If psychology is really to become a science on a par with the rest, it cannot for ever remain a game for professors who merely amuse themselves by describing some of the superficial aspects of mental life in technical and arbitrary jargons of their own invention, without subjecting the claims of their 'psy-

chologies' to any serious test by seeing whether they can predict and control the course of any actual mind. Psychology, therefore, cannot continue to shirk much longer the test of application to the actual phenomena of mental life, and all who perceive this will find that they have much to learn from Mrs. Sidgwick, as from the other students of individual psychology.

It should be understood, therefore, at the outset that the interest and importance of Mrs. Sidgwick's work is essentially psychological, and not 'teratological'. Not that she denies the occurrence in Mrs. Piper's trances of supernormal knowledge: on the contrary she declares emphatically (p. 6) that "*I have no doubt whatever that knowledge is often exhibited in the course of Mrs. Piper's trance utterances which can only have reached her by some supernormal means*," and that her "supernormal powers are very important". Neither does she deny that "evidence tending decidedly to support the hypothesis of communication from the dead has been obtained through automatists other than Mrs. Piper" and through 'cross-correspondences' in which Mrs. Piper has had a share. But in her selections she excludes "the evidence for telepathy either with the living or the dead, partly because I am unable to agree with Hodgson as to the extent to which Mrs. Piper's trance utterances are independent of her, and partly because I must dwell on the absurd elements in these utterances" (p. 7), the seamy side consisting of "obviously false personations and false claims, of ignorance and misapprehensions shown by the trance-personages" (p. 6). We learn also (p. 5) that in the judgment of Mrs. Sidgwick, Mr. Gerald Balfour and Mr. Piddington the unpublished Hodgson records "do not on the whole afford evidence different in kind from that which we already have" and that "it is not worth while to attempt to present more evidence" of supernormal knowledge from them.

On the other hand Mrs. Sidgwick's selections must be pronounced very damaging to the claims of some of the trance-personalities. This applies especially to the 'Imperator Band.' who professed to be a company of exalted spirits who had inspired W. Stainton Moses, and after his death claimed and obtained the chief control of Mrs. Piper's trances in 1897. Their impressiveness as spiritual advisers (which it is fair to say is attested also by William James, though he himself "favoured the idea of their all being dream-creations of Mrs. Piper") induced Hodgson to submit to their methods; this involved a great reduction in the evidential part of the output, without leading to the coherent and systematic account of the spirit-world and its modes of communicating which he was promised. Yet from the first 'Imperator,' 'Rector,' 'Doctor,' etc., had failed to give credentials of their identity with the characters so-named in Moses's *Spirit Teachings*, and it is difficult to see that their performances at any time were superior in quality or content to those of the earlier 'controls' like 'Phinuit' and 'G. P.'. Hence one cannot but endorse Mrs. Sidgwick's judgment that 'Imperator' in particular produced an "unpleasant effect of pretentious inadequacy" by communications not only "incoherent and contradictory but altogether on a lower level of culture than what we find in *Spirit Teachings*" (p. 101), *i.e.* in Moses's 'Imperator'. His excursions into science and Biblical History were surely enough to discredit him, and in his discredit it would seem that all the other 'spirits' must be involved, even those who like 'G. P.' and Hodgson himself were life-like impersonations and had given real evidence of authenticity. For all the rest testified to the reality of 'Imperator' and acknowledged his superiority. 'Rector' also gave himself away hopelessly from a scientific point of view, by losing his temper when an alleged cross-correspondence had

been convicted of failure (p. 514), and by his anxiety to reserve the medium for sermonising purposes (p. 490).

It is not astonishing then that Mrs. Sidgwick sums up *against* the spiritist interpretation (pp. 315-331), and thinks Mrs. Piper's trance "is probably a state of self-induced hypnosis in which her hypnotic self personates different characters either consciously and deliberately, or unconsciously and believing herself to be the person she represents, and sometimes probably in a state of consciousness between the two". But she is well aware that this conclusion does not close the inquiry. The supernormal knowledge shown has still to be accounted for. 'Telepathy' is a problem, not an explanation. Our knowledge of hypnotic and other 'dissociated' states of personality is woefully inadequate. We have so much to learn about "the way the consciousness works in all of us, but in automatists in particular". So she very rightly reserves to herself the right of revising her conclusions.

Mrs. Sidgwick's attitude seems sound and truly scientific, and those who prefer to experiment with the spiritist interpretation of the phenomena would be well advised to treat it with respect. They should recognise that even though their theory may be right, it can hardly be right in the simple forms first given to it and that it is incumbent on them to probe much deeper into its possibilities and complexities. As so often in the progress of a science, we have here a case of alternatives, to either of which such 'facts' as are known can be accommodated, and which appeal differently to different people.

But the most pathetic feature about the situation, perhaps, is the helplessness of 'orthodox' psychology. It has nothing authoritative, nothing even *relevant*, to say about the practical difficulties of the psychical researcher. What can it tell us about the constitution of a personality, about the forces that weld it together or 'dissociate' it? How can it either justify the working assumption that personalities are impervious to each other or determine how under certain conditions they appear to interpenetrate? Can it explain even the most elementary facts about any actual self, how *e.g.* it remembers, and why it forgets, the simplest thing? Must it not admit that the collective wisdom of all the psychologists in the world would probably fail to foresee the next thought of any member of their conclave? Assuredly the psychical researcher is grievously hampered by the backwardness of a science he would be glad to use if only it could be put in an applicable shape. Like the psychiatrist, the psycho-analyst, the educationist, he finds that psychology leaves him in the lurch, because its professors have been too busy building castles in the air to dream of applying their doctrines to the facts that would test them. Until the psychologists have grasped that they too cannot escape the pragmatic test, it will not be possible to discover either how much of the theories tested is true or how many of the facts alleged are real.

F. C. S. SCHILLER.

A Text-book of Logic. By ARTHUR ERNEST DAVIES, Professor of Philosophy in the Ohio State University. R. G. Adams & Co, 1915. Pp. xxviii, 601.

This book is meant for beginners, and as regards choice of topics and general method of treatment, it follows in the main, though by no means slavishly, "the classical tradition of which Aristotle and Mill are the two fountain heads". Allowing for the limits prescribed by its modest aim, the work is in many respects worthy of high praise. The selection and

arrangement of topics is good. The exposition is throughout lucid and easy and yet not cut and dried; it is such as to awaken interest and to stimulate thought in the elementary student without unduly taxing his powers. Further, Prof. Davies has succeeded in adapting his book not only to the requirements of the student but to those of the teacher. He has, I think, succeeded, as he intended to do in making it, so far as its general method of treatment is concerned, "an instrument in the hands of the teacher which facilitates the task of teaching and adapts itself to the purposes that he may hold before himself and the class".

On the whole I should be prepared to recommend the work both to students and teachers as a book for beginners if it were not marred at some important points by doctrines which seem to me in part very dubious and in part clearly erroneous. As an example of a clearly erroneous statement, likely seriously to mislead the student, I may refer to the account of the distribution of terms. "A term is distributed when from the form of the proposition in which it occurs, it is known to refer to a determined number of individuals of the class denoted by the term" (p. 115). Together with this view of distribution, Prof. Davies continues to hold that a proposition is universal when its subject is distributed and particular when it is not. It must follow that in "some one (or only one) of the crew fell overboard," the subject is distributed and the proposition universal. But if this were so, we ought to be able to infer that whoever did not fall overboard was not a member of the crew. Plainly this is fallacious unless we in some way identify the particular member of the crew referred to; but the original proposition does not enable us to do this. In general, the proposed definition of distribution breaks down in its application to the doctrine of immediate inference and of the syllogism. Prof. Davies' treatment of the important subject of Connotation and Denotation is unsatisfactory. He fails to distinguish between two vitally different senses of Connotation, according as it is taken to include all qualities of a thing or only those qualities which are necessary and sufficient to constitute the thing a member of a certain class. Hence his discussion of the question whether Proper Names, as such, are connotative is vague and inconclusive. He also repeats an error, traceable, I believe, to Jevons. He says (p. 115): "The denotation of a term may be increased greatly without any change in its connotation, as actually happened for example when the British Government annexed some millions of Africans at the close of the Boer war, without making thereby any change at all in the connotation of the term 'British subject'". There should be no need to point out that the distinction between past, present, and future existence is logically irrelevant unless it is included in connotation as in the class name "British subjects existing previously to the annexation which followed the Boer war". But if the time reference is included in the connotation there is no relevant difference in Denotation which does not involve difference in connotation. In distinguishing Categorical, Hypothetical, and Disjunctive propositions, Prof. Davies attempts to bring them all under the common formula "S is P" (pp. 88-89). Yet in some passages he seems to recognise that in "if S is P, it is M," what we really assert is a connexion between "S being P" and "S being M"; without asserting or implying either that "S is P" or that "S is M". It is worth noting that Prof. Davies always gives, as the formula for the Hypothetical, "If S is P, it is M," never "If S is P, Q is M". Similarly his formula for the Disjunctive is always "S is either P or Q," never "Either S is M or P is Q". The book contains a thoughtful discussion of "Abstract terms" which is in many ways deserving of praise. But the conclusion reached is likely to puzzle the intelligent student. "Greenness," we are told, "is that

which belongs as an attribute to all greens whatsoever." What, we may ask, can this greenness be besides the particular greens to which it is said to belong? Turning to Induction, we find that Prof. Davies condemns the plurality of causes as "a quite misleading, if not mischievous conception". He may be right. But he entirely fails to bring out the obvious and *prima facie* impressive reasons for the opposite view, and in general he does not indicate in any way the difficulty of the question. The student is not likely to discover in the book any cogent reason for denying the plurality of causes except Prof. Morgan's apparently arbitrary assertion that it is untenable. In dealing with Mill's experimental methods, it is premised at the outset that these methods are "a statement of the processes which have been found useful in the establishment of those causal relations in which the antecedent and consequent reciprocally imply each other"; "we should be putting an unnecessary strain upon these methods if we did not regard them as applying, in the strict sense, only to those special cases in which a relation of the kind in question had been determined" (p. 473). Now I do not know what may be in Prof. Morgan's mind when he makes this statement. In some recondite sense, his position may be defensible. But on the face of it, it is quite indefensible. The view which Mill himself took of his methods is quite irreconcilable with it; and there is nothing in Mill's detailed exposition which can be shown to presuppose logically the reciprocal relation of cause and effect. In this respect, Prof. Morgan's detailed account of the methods does not differ from Mill's. Thus the student will be confronted with what must appear to him as an arbitrary statement difficult to reconcile with the obvious facts of the case.

Prof. Davies in his initial definition of Logic seems to me to assign no adequate distinction between it and Psychology. "Logic," we are told, "arises when the thought factor present in all knowledge is set before the mind as a subject of investigation" (p. 11). This "thought factor" is distinctly asserted to be a "mental factor". In order to keep Logic separate from Psychology, Prof. Davies finds it necessary to add that in Logic we consider only the conditions of *correct* thinking. But what are the conditions of correct thinking? Are they to be found in the thought process itself as a "mental factor"? If they are, there seems to be no reason why psychology should not investigate them. If they are not, then it is essentially untrue that Logic deals only with the thought process. Prof. Davies has of course weighty authority for his position. None the less, I wish he would reconsider it.

There are a few minor mistakes and slips of a glaring kind. The distinction between Knowledge by acquaintance is ascribed to George Grote "the English Historian" instead of his brother, John Grote, the Cambridge Professor (p. 63). It is quite misleading to couple Aquinas with Anselm as a "realist". Indeed the passage (pp. 92-93) on the scholastic doctrine of universals is so inexact that it would be an improvement to omit it altogether. Similarly the reference to Pythagoras (p. 393) is quite out of place. Nothing was further from his thoughts than the use of statistical methods. There is a curious slip of the pen on p. 450, where the discovery of the "planet Neptune in 1846" is twice ascribed to Galileo.

I repeat in conclusion that so far as adaptation to the needs of beginners is concerned this book has considerable merit. Careful revision might make it into a satisfactory introduction to Logic. But careful revision is required.

G. F. S.

Outlines of Moral Philosophy. Designed to be adapted to the Syllabus on Ethics fixed for the B.A. Examinations of the Calcutta University. By Abhoy Kumar Mazumdar, Senior Professor of Philosophy, Krishnath College, Berhampore, formerly Senior Professor of Philosophy, Ripon College, Calcutta. Calcutta: J. K. Mazumdar, 1915. Pp. ix, 164, 201, 278.

This book is primarily intended by Prof. Mazumdar to meet the requirements of his own students and the similar requirements of Indian students in general. As regards the topics dealt with it confessedly follows the Examination Syllabus of Calcutta University. But it is by no means a mere cram-book. The exposition is throughout as full as is compatible with the conditions of a book for beginners, and it is also well thought out. The author "writing from view-point of Ideal-realism as expounded by Vedantism and Hegelianism" has "accepted the view that the real standpoint of morality should be that which takes into account and explains all the sides of human nature and is therefore the perfection of that nature"; he has "consequently tried to show that all other forms of the moral standpoint are based upon a one-sided conception of the self, each of which conceptions evokes its opposite by the inherent necessity of its nature, and is, therefore, a step in the process of a dialectic which finally leads to a conception that reconciles them all and unifies them in a system of which they are only partial forms" (Preface). Prof. Mazumdar shows himself, on the whole, a competent representative of this position. His account of the views of other writers including those most opposed to his own, is for the most part sufficiently full and accurate and his criticisms relevant and pointed. The book seems well adapted to its purpose, and it may perhaps be found useful by others as well as students at Indian Universities.

G. F. S.

Reflections on Violence. By Georges Sorrel. Translated with an Introduction and Bibliography by T. E. Hume. London: Allen & Unwin, 1916. Pp. xv, 299.

When one divests the polemic of Mr. Sorrel of adventitious elements such as references to Pessimism and to Bergson, there remains a striking development of Socialism in the direction of Syndicalism and the general strike. Sorrel's exposition suffers from the form of the present volume which is a translation of a series of articles, in which various aspects of the main theme have been developed separately. There is in fact only one central idea, namely, that the revolution in social order, instead of being the outcome of a historical process as predicted by Marx, is to be brought about by violence as a phase of a general strike. Sorrel, like other Syndicalists, is remarkably silent as to what would happen on the supposition that this violent upheaval takes place and is successful. Failing anything constructive, one might wonder before reading the volume, why a book of fair size is required to explain this principle. In the main the answer is that the original articles were much more an attack upon French political Socialism than upon the existing system of social order. Sorrel speaks with pitying contempt of the middle classes, he inveighs with the most bitter sarcasm against the intellect, the common sense and the morals of rival socialists. Thus to cull a few specimens at random, it is hinted that Sudekum may have had a financial interest in the elopement of a certain Princess (p. 55 note). Jaurès is distinguished by remarkable suppleness of mind and of peasant duplicity (p. 81), the policy of French Parliamentary Socialists is "a

dictatorship of incapacity" (p. 83) "filled with contradictory, comical and quack arguments," "aiming at reconciling contradictories by means of nonsense" (p. 129). "It amuses buffoons and is admired by decadents" (p. 130). Sorrel quotes with enjoyment Tarde's description of Mr. Sidney Webb as "a worthless scribber". His own character sketch is that Mr. Webb has "a mind of the narrowest description which could only impress people unaccustomed to reflection" (p. 132). These few quotations show how Socialists love each other!

It is not a little remarkable that, though *Reflexions sur la Violence* only appeared in 1908, it is already out of date, and is rather of historical than of practical interest. Sorrel emphasises that there are limitations to the efficacy of industrial violence. He shows that two "accidents" alone would stop revolutionary Syndicalism, namely, "a great foreign war, which might renew lost energies, and which in any case would doubtless bring into power men with the will to govern; or a great extension of proletarian violence, which would make the revolutionary reality evident to the middle classes" (p. 83). Elsewhere he indicates another limitation, namely, that Revolution is not likely to succeed in a period of economic decadence—such as may follow the present war. Thus, whatever economic and social disturbances may follow the declaration of peace—and they are likely to be more considerable than at present anticipated—these are expressly ruled out on Sorrel's principles. Nor is he more fortunate in his prediction as to the attitude of British politicians in a national crisis. Even more than the middle class, he despises politicians whose "wits are singularly sharpened by their voracious appetites and in whom the hunt for fat jobs develops the cunning of Apaches" (p. 168). The English Liberal party was pilloried by Sorrel as the fitting counterpart of the middle class. "Middle-class cowardice much resembles the cowardice of the English Liberal party, which constantly proclaims its absolute confidence in arbitration between nations: arbitration nearly always gives disastrous results for England. But these worthy progressives prefer to pay or even to compromise the future of their country, rather than face the horrors of war" (p. 73). The events of July and early August, 1914, afford a significant commentary on this dictum, just as the roll of honour since then is a silent, sad irony upon the alleged decadence of the middle classes.

The translation is generally well done, and it preserves as much of the nervous and hectic brilliancy of parts of the original as is possible in another language.

W. R. Scott.

Université de Louvain—Annales de l'Institut Supérieur de Philosophie. Tome III. Année 1914. Louvain and Paris. Pp. 628.

This is a belated notice of the last issue of these Annals, which appeared in the earlier part of the year which was to see, before its close, the memorable crime that has made Louvain a name to conjure with to Englishmen, who have vowed not to lay aside the sword until those who have ruthlessly trampled on so much that should have been sacred to all civilised men, have been driven from the lands they have violated. The number before us contains ten articles written by scholars connected with the School or Institute of St. Thomas Aquinas, a foundation within the University of Louvain devoted to the advanced study of philosophy on 'neo-scholastic' lines.

The first is by M. Defourny and deals at considerable length with the economic and political theories of Aristotle. Especial attention is called

to the result of such advocacy of the restriction of families as we find in Aristotle in the ὀλιγανθρωπία lamented a century later by Polybius; and the writer invokes on the opposite side the Old Testament precept to 'increase and multiply' along with the New Testament counsel to 'take no thought for the morrow'. One may observe, by the way, in respect of the remark on p. 112 that any agreement between Aristotle and Plato should be emphasised, because so rare, that M. Defourny has not sufficiently realised the fundamental Platonism which continued to characterise the most illustrious of Plato's pupils amid all his criticism of his master—which indeed is directed throughout to justifying his divergence in certain definite points from those with whom he would naturally be in sympathy, his fellow-disciples of the Academy.

M. Diès has a good account of the idea of science in Plato, in which he shows himself thoroughly familiar with English work on his subject. M. Becker writes on St. Thomas's theory of God's influence on the operation of his creatures. He is stricter than St. Thomas himself in separating the sphere of nature from that of grace. He describes the Angelic Doctor as having, under the influence of the Aristotelian physics, put the divine causality too much in the same rank with that of the heavenly bodies. This may be granted, but the problem of the relation of God's causality to physical causes is none the less difficult because we do not speak of the forces of nature as stellar influences. M. Becker seems to relegate providential action to the supernatural order. The usual consequence however of such a dualism seems to follow; namely, a real danger to the interests of religion in the guise of a fancied security for them.

M. Grabmann's study of St. Thomas's Aristotelian commentaries is learned and on the whole judicious. (A foreigner will easily be excused for speaking of 'Peterhouse College' without perceiving the tautology.)

M. Lebbe gives an account of Chinese philosophy. He appears to believe in a 'primitive tradition of the Trinity'. It is noticeable that he remarks on an excessive saint-worship as characteristic both of China and of Catholic countries.

M. Lottin's criticism of the French sociologists—the group who conduct *L'Année Sociologique*—is valuable. He points out that, despite their apparent solidarity, there are considerable differences of view among them. Thus M. Durkheim attempts a real ideal; M. Lèvy-Bruhl says nothing of this (p. 395). M. Lèvy-Bruhl does, however, postulate the foundation of moral science; but, according to M. Bayet, the ideas of responsibility and duty are doomed (pp. 390, 400). The principle (M. Lottin quotes the last-named writer as saying) of the moral act is that which the common consciousness (or conscience) judges to be good. But the unity of this *conscience commune* turns out to be purely apparent (p. 408), and eventually M. Bayet gives up his 'amended utilitarianism'. He finds it too general to be practical. The moral art cannot choose between ideas. One must in practice choose freely according to what appeals to oneself. Science can tell one what the result will be, but in doing this it plays a *rôle purement informatif nullement normatif* (p. 410). M. Bayet has, we learn, been disowned by MM. Durkheim and Lèvy-Bruhl as the *enfant terrible* of their school (p. 412). All three alike, however, have failed to resolve what M. Lottin calls the problem of Ends by *la science*, as they understand that term (p. 420). Other French writers are then discussed and found wanting. The ethics of Kant also M. Lottin judges to be unsatisfactory; and what in this critic's eyes is their main defect, their 'formalism,' he connects (p. 486) with the fact that they are not derived from the Catholic ethics but inspired by those of the Jansenists and Protestants. The eclectic ethics of Cousin, he goes on (p. 487) to

observe, are also Jansenist by descent; and this is especially seen in their theory of intention, which is near akin to Kant's. Both escape the Kantian formalism by 'founding duty on *le bien objectif*'. This M. Lottin defines as *ce qui est conforme à la nature de l'être*; and he adds the somewhat surprising statement that this judgment is immediate and has nothing mysterious about it. The judgment of morality is, he tells us (p. 465), an analytic judgment and immediately evident. M. Lottin seems to hold that it would only be synthetic on the 'purely positive' or 'authoritative' view. This view cannot be ultimately correct, because to explain the prohibitive will of God one is compelled to recur to the notion of *la moralité intrinsèque*. The weak point of the Aristotelian and scholastic ethics which M. Lottin defends is seen in a remark (p. 471 n.) that you may *engage* the will to act morally by a hedonistic consideration, though this does not give you the true reason. Despite the justice of M. Lottin's criticism of M. Lèvy Bruhl's views, his own view is vitiated by the fallacy contained in the Aristotelian attempt to explain morality by equating the good with the natural, an equation which leaves on one side the real problem of morality altogether; and it is just here, in the full realisation of what this problem is, that the strength of the Kantian ethics lies.

M. Vallery-Radot follows with an article on Contemporary Catholic Literature. Then come two others dealing with certain questions in psychophysics, and the volume concludes with a chronicle of the work done in the Institut Supérieur de Philosophie during the preceding year. It is interesting to note that special distinction was won by an Englishman, Mr. F. Aveling, a lecturer of University College, London, with a thesis to which he had already owed his election as Carpenter Medallist in the University of London. Prof. Noel (who after the devastation of his University was for a time a welcome guest at Oxford) presents a *bilan de l'école de Louvain*, in which he tells us that in that School, though founded for the study of St. Thomas, that teacher is to be *un phase, non pas une borne* (p. 604), and his words are not to be repeated as dogmas. He notes (on p. 607) that in 1891 Louvain was becoming a University of the German rather than of the Napoleonic type; by which he appears to mean that it was becoming one in which science is to be regarded, not as *une chose faite et achevée*, but as progressive and still in the making. At this juncture the School of St. Thomas was founded. The pronouncements to which it owed its origin, the Encyclical *Aeterni Patris* of Leo XIII. and a report by Mgr. (now Cardinal) Mercier, echoed, we are told, Comte's conception of philosophy as the ultimate synthesis of the sciences. We may be permitted to doubt whether the influence of this conception has been altogether favourable to the subsequent development of philosophical studies in the School. What one finds missing there is a full appreciation of the movement of modern philosophy as distinct from that of the natural sciences. The study of the latter has been alive in the School, but that of philosophy has seemed to tend towards preoccupation on the one hand with the history of mediæval speculation, on the other with empirical psychology. As Prof. Noel himself puts it (p. 626), 'Placing ourselves in the midst of modern currents of thought'—and, in speaking of modern currents of thought, he is thinking mainly of the natural sciences and of empirical psychology—'we have ascended towards the ideas of St. Thomas, to find there the solutions' of the problems raised by the world of to-day.

May we at no distant time see resumed in a resuscitated Louvain the activities of which this interesting volume is a record!

C. C. J. W.

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VII.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. xxv., No. 1. **J. W. Scott.** 'On the Competence of Thought in the Sphere of the Higher Life.' [Thought, for which the real universe discloses itself as a real-ourselves, has been the instrument of man's advance in morals, art and religion.] **T. de Laguna.** 'On Certain Logical Paradoxes.' [Discusses three typical paradoxes from the *Principia Mathematica*: those of the liar, of the constant relation of object to its class, and of the constant relation of object to its property. The two last rest upon an error as regards the nature of the logical copula; the first turns on the possibility of elimination of 'true' and 'false' as applied to propositions.] **W. K. Wright.** 'Instinct and Sentiment in Religion.' [The religious attitude is neither instinct nor artificial construct but sentiment. At first it is vague; the differentiation of values and agencies is imperfect; moral group-values are not necessarily connected with religious. Next it splits into a variety of sentiments, one for every fetich, spirit, god. Finally the various agencies are synthetised into a higher and more concrete unity: monotheism.] **C. A. Bennett.** 'Bergson's Doctrine of Intuition.' [If analytical knowledge is to be possible, another kind of knowledge must provide the framework within which predicate-connexion may take place; and since a predicate may claim to exhaust the nature of a subject, we must have a corrective knowledge of that subject in its simple entirety. Full knowledge implies the interplay of both processes.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.—Vol. xxv., No. 2. **A. C. Armstrong.** 'Philosophy and Common Sense.' [Common sense grows, and philosophy is among the main conditions of this growth (uniformity of nature, mind and body, evolution). In thus fulfilling one of its principal functions, philosophy enlarges its own borders and is prompted to constructive work.] **P. E. More.** 'The Parmenides of Plato.' [The rationalism which brings out the contradictions involved in positing the existence of Ideas is to be met by pointing out the contradictions involved in positing their non-existence; the reality of Ideas may then be accepted as a necessity of inner experience.] **A. K. Rogers.** 'Reason and Feeling in Ethics.' [As the objective content of truth (correspondence) is to the feeling of belief, so is the objective content of good (capacity for satisfaction of desire) to the feeling of approval. The strictly moral quality 'better' appears only when our attitude toward the alternative choice is that of actual disapproval. It follows, from this interplay of interest and desire in ethics, that the personal ideal is not the *Summum Bonum*.] **E. G. Spaulding.** 'Proceedings of the American Philosophical Association: the Fifteenth Annual Meeting, University of Pennsylvania, December 28-30, 1915.' Reviews of Books. Notices of New Books. Summaries of Articles. Notes. [**R. B. C. Johnson** on A. T. Ormond.]

Psychological Review. Vol. xxiii., No. 1. **R. MacDougall.** 'The Self and Mental Phenomena.' [The psychologist deals neither with the assessment of immediate values in life nor with the metaphysical interpretation of experience. Self concerns him (1) in the specific mental

fact of 'sense of self,' (2) as a name for the totality of mental characteristics and activities ('mind' is here the better term), and remotely (3) as the logical limit of reference postulated in the definition of the science itself.] **J. A. Harris.** 'On the Influence of Previous Experience on Personal Equation and Steadiness of Judgment in the Estimation of the Number of Objects in Moderately Large Samples.' [Personal equation is very little, steadiness of judgment is unmistakably influenced by previous experience.] **K. Dunlap.** 'Thought-content and Feeling.' [Against Lovejoy and Bode. Emotion is bodily state, and thought-content is muscle-contraction content.] **P. W. Cobb.** 'Photometric Considerations Pertaining to Visual Stimuli.' [A condensed statement of the fundamental physical conceptions which apply to visual stimuli. Photometric conceptions; visual objects; the relations of light to energy.]—Vol. xxiii., No. 2. **J. B. Watson.** 'The Place of the Conditioned Reflex in Psychology.' [Discusses the technique of Bechterew's conditioned motor reflex. The method, for the present used mainly in work upon the lower animals (dog, bird), is applicable to the human adult, probably to children, perhaps to pathological cases. It is adequate to normal sensory problems, and promises well for memory, the association-reaction, and the sensory life of those who are unable to use words.] **E. S. Abbot.** 'The Biological Point of View in Psychology.' [Biologically, man is a biological unit reacting to his environment; every psychical event is a reaction; the psychiatrist must study his patient's total reaction to total environment.] **A. S. Otis.** 'Some Logical Aspects of the Binet Scale, i.' [Shows how to determine the percentage of children who should pass a test at the age for which it is to be considered standard. Tests may be standardised more accurately than at present by consideration of the percentages of children who pass it at several different ages.] **J. Peterson.** 'Completeness of Response as an Explanation Principle in Learning.' [In every response there is overlapping of tendencies; mutual reinforcements and inhibitions are at work. Certain acts are, on the whole, chosen because they are, on the whole, the most natural. Illustration from maze-experiments.] **L. J. Martin.** 'A Case of Pseudo-prophecy.' [A forecast of the earthquake of 1906 due to scientific inference.]

American Journal of Psychology. Vol. xxvii., No. 1. **J. N. Curtis.** 'Duration and the Temporal Judgment.' [Experiments on the discrimination of filled and empty intervals, auditory, visual and electrical-cutaneous, with accompanying introspection, enable the writer to reconcile conflicting results of earlier workers, and also throw light on the psychological nature of duration. Time may be taken perceptually, as static length, or attributively, as progression-experience; duration is thus a true sensory attribute.] **F. L. Wells.** 'On the Psychomotor Mechanisms of Typewriting.' [An objective study, made with a view to vocational guidance: time (rate of strokes, effect of back-spacer, margin-release, carriage-return, etc.), accuracy, experimental and non-experimental conditions, nature of errors (omissions, transpositions, substitutions, additions), are considered in some detail. Typewriting generally is better done toward noon than at the opening of the working day.] **W. B. Swift.** 'Some Developmental Psychology in Lower Animals and in Man and Its Contribution to Certain Theories of Adult Mental Tests.' [Traces the development of control-centres in the conditioned reflex (dog), in the visual training of stutterers, in the vocal drill of a mental defective; argues from these facts, and from other neurological data, that "mental tests should relate all sensorial content, all interpretative reaction, all forms of collaboration, all controlled methods of expressive output, according to the correlations laid down in the theory of the whole (type, individual) and the parts".] **H. E. Burtt.** 'Factors which

Influence the Arousal of the Primary Visual Memory Image.' [The image is favoured by complexity of contour, size, long exposure, interest, motor reinforcement; is inhibited by mental and motor distraction. The factors appear to converge toward one: the direction of attention to the stimulus-object.] **L. Dooley.** 'A Study in Correlation of Normal Complexes by Means of the Association Method.' [Complexes are found; twelve indicators are mentioned. The unconscious is dynamic in nature, and is a potent factor in conscious activity. Freud's sexualism and infantilism cannot be tested by the method.] Book Notes.

JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. xiii., 3. **H. C. Warren.** 'A Study of Purpose,' III. [Deals with purpose in nature, and concludes that "purpose is not a fundamental category in the scientific explanation of cosmic evolution". A 'trend' or "'tendency toward greater complexity and harmonious interworking" is, however, admitted.] **H. L. Hollingworth.** 'The Twenty-Fourth Annual Meeting of the American Psychological Association'.—xiii., 4. **H. J. Laski.** 'The Sovereignty of the State.' [Protests against the Hegelian notion of supra-moral, absolute, Sovereign State, suggests that the retired colonels in their clubs are aping Bernhardi, and prefers a pragmatic, pluralistic, individualist conception for which "the State, like every association, must prove itself by what it achieves" and is based on "consent to disagreement".] **T. de Laguna.** 'The Fifteenth Annual Meeting of the American Philosophical Association.'—xiii., 5. **E. B. Titchener.** 'A Note on the Sensory Character of Black.' [Contests James Ward's denial (in the *British Journal of Psychology*, 1905) that 'black' is a sensation, and urges against the argument from a comparison of 'black' with 'silence' that silence also may be 'felt' and is not mere absence of sensation.] **J. A. Leighton.** 'Percipients, Sense Data and Things.' [Defends a naive realism, "modified only by insistence on the organic and functional interdependence and correlation of percipients and perceived objects". 'Sensations' are dismissed as artificial constructions, 'sense data' are superfluous and 'things' are to be explained pragmatically as practical constructions relative to a desire and a purpose.] **A. T. Poffenberger.** 'New York Branch of the American Psychological Association.'—xiii., 6. **H. F. Adams.** 'The Relative Memory Values of Duplication and Variation in Advertising.' ["Increasing size gives higher memory value than increasing the number of repetitions," and "variation is about twice as effective as duplication".] **E. Guthrie.** 'The Field of Logic.' [A sort of review of Windelband's *Encyclopedia of the Philosophical Sciences*, coming to the conclusion "in entire agreement with Russell . . . that truth is quite accidental to propositions as far as logic is concerned. Logic is not concerned with the truth or validity of ideas as Windleband (*sic*) would have us believe." It is also asserted that the thinking of a man marooned on a desert island with his dog "need not have the structure of logic".] **J. S. Moore.** 'Purpose and Causality.' [A note on H. C. Warren's article in xiii., 2.]—xiii., 7. **A. K. Rogers.** 'A Statement of Epistemological Dualism.' [An attempted defence of the 'copy' notion of truth. It is urged that "there do undoubtedly exist strong beliefs which involve the assumption," *e.g.*, that in the existence of an inner life in others. The belief, however, "that our ideas correspond to reality is not to be regarded as a result of comparison but as an assumption or postulate" and "tested indirectly by the *consequences* which we *do* experience" (*i.e.*, by the pragmatic test). As for the difficulty about the self-transcendence of ideas, such transcendence may be a fact though philosophy cannot understand it. If *memory* can transcend (present) experience why not

meaning? The question as to how we may know *when* our ideas correspond with realities is reserved.] **H. L. Hollingworth.** 'The Psychophysical Continuum.' [Argues that the separation of experiences into a 'natural' and a 'mental' order is an artifice with a practical motive. "The physical world . . . for which are developed the various shorthand symbols by which we designate the objects as independent of experience consists of those experiences which are statistically common." "The dependence, the subjectivity, the personal character of other experiences, the so-called mental order, are merely literary terms which express their statistical limitations and their consequent vagueness and complex conditions of appearance." The 'gulf' between the two orders is due to neglect by classifiers of "the intermediate zone, comprising those experiences with only average statistical possibilities—the diseases, the communistic sentiments . . . such experiences as panic, ague, beauty, warmth, etc." Experience, moreover, is full of correlations and "the correlation of what we call a mental fact with what we call a physical fact is no more mysterious than, and is the same in kind as, any correlation between two physical or between two mental facts".]—xiii., 8. **E. L. Thorndike.** 'The Technique of Combining Incomplete Judgments of the Relative Positions of *N* Facts made by *N* Judges.' [The 'general intellect' of thirty-four college freshmen was judged by eighteen judges (whether all undergraduates or also professors is not stated) who knew from fourteen to twenty-nine of them. With the exception of one humble-minded individual the judges all awarded to themselves 84-99 per cent.] **G. C. Cox.** 'Ethics as a Science and as Art.' [A clear-headed and incisive paper, which urges (1) that "ethics can be and will be treated as a natural science"; (2) that "to insist upon its normative character is to keep it from being studied in any fruitful way. If normative in the absolutist and aprioristic sense, it is impossible to study it as a science at all;" (3) that "the case method, which is in the social sciences the analogue of the laboratory method, must be used for the discovery of ethical laws. It is not casuistical, since it does not assume a knowledge of these laws *ab initio*; (4) that "the *results already attained* by many sciences . . . will be used for the purpose of discovering what man *can do*"; (5) "the influence of *social heredity*, through racial, national and religious traditions" will be studied as well as casuistry proper.]—xiii., 9. **J. Peterson.** 'Illusions of Direction Orientation.' [To which, apparently, dwellers in American cities, with their geometrically laid out streets, are peculiarly liable. It is suggested that "there are a number of similarities between the development and maintenance of a sense of direction and the development and continuity of personality".] **T. L. Davis.** 'Theory as Truth: A Study of the Logical Status of Scientific Theory.' [Proposes that the term 'theory' should be restricted to "a class of opinions which are logically different from laws and hypotheses" which are "the surest thing that science knows". A 'theory' is, apparently, an interpretation of an experiment to which no alternative has presented itself, and which is therefore held to be *the only possible* explanation of the fact and "as true as a fact". Examples are given of scientific opinions for which this status is claimed, but it is admitted that scientific usage of the term 'theory' does not support the proposal, while no attempt is made to meet the logical objection that in principle an alternative to an only interpretation must always be reckoned with and that the difference between the only interpretation and the best up to date is only a psychological one. No amount of present scientific consensus can go bail for the future.]

ARCHIVES DE PSYCHOLOGIE. Tome XV., No. 4. **A. Leclère.** 'La psychologie des grafitti.' [Distinguishes the various impulses to self-

expression which lead to scribbling on walls ; concludes that *grafittisme* is a psychical syndrome either of degeneration or of neuropathy.] **H. Delacroix.** 'Remarques sur "une mystique moderne".' [Comments on the case described by Flournoy. The contest between the mystical and the moral-religious tendencies is settled by the subject's rejection of ecstasy and return to actual life ; the conflict between the impersonal divinity of the ecstasy and the personal God of history is fundamentally unresolved.] **E. Molnár.** 'Une nouvelle méthode en psychologie religieuse.' [Describes a method of personal graphs which, accompanied by a diary, show the course and fluctuations of the religious experience. Three cases are given.] **P. Kennel.** 'Essai de classification des odeurs par la méthode des majorités.' [Preliminary trials indicate that, apart from one or two great groups, classification is uncertain ; Zwaardemaker's groups, however, serve their purpose.] Recueil de Faits : Documents et Discussions. **V. de Morsier.** 'Que deviennent les élèves qui sont sortis des classes d'anormaux ?' [Only 10 to 20 per cent. can earn their own living.] **C. Werner.** 'Xe Réunion des philosophes de la Suisse romande.' Bibliographie. Notes diverses. [Necrology 1901-1915 ; experimental psychology at the University of Geneva.]

Zeitschrift f. Psychologie. Bd. lxxiii., Heft 1 u. 2. **L. V. Viqueira.** 'Lokalisation und einfaches Wiedererkennen.' [Meaningless syllables, exposed together in certain positions, and re-exposed singly after an interval of time, are better and more quickly recognised if shown in their original positions.] **K. Koffka.** 'Beiträge zur Psychologie der Gestalt- und Bewegungserlebnisse. iii. Zur Grundlegung der Wahrnehmungstheorie : eine Auseinandersetzung mit V. Benussi.' [An elaborate and on the whole effective critique, from the standpoint of Wertheimer and the author, of the theory of perception worked out by the Graz school.] **H. J.** und **W. A. Pannenborg.** 'Die Psychologie des Musikers.' [A study based on the questionaries of Heymans and Wiersma and on biographical data. The musician belongs to the nervous-choleric type.] **A. Meinong.** 'Stephan Witasek zum Gedächtnis.' Literaturbericht.—Bd. lxxiii., Heft 3 u. 4. **H. Henning.** 'Der Geruch, i.' [First part of a strictly psychological study of olfactory qualities. There are six fundamental sensations of smell : flowery, putrid, fruity, and spicy, burned, resinous. These qualities lie at the angles of a regular trigonal prism.] **G. E. Mueller.** 'Ein Beitrag über die Elberfelder Pferde.' [Prints the report of a Danish prestidigitator ; differential experiments point to trickery on the part of the groom.] Literaturbericht.—Bd. lxxiii., Heft 5 u. 6. **A. Gelb** und **H. C. Warren.** 'Bibliographie der deutschen und ausländischen Literatur des Jahres 1914 über Psychologie, ihre Hilfswissenschaften und Grenzgebiete.' [2642 titles, as in the corresponding Index ; 1913 had 2740.]—Bd. lxxiv., Heft 1 u. 2. **O. Leeser.** 'Ueber Linien- und Flächenvergleichung : ein Beitrag zur Lehre vom Augenmass.' [Experiments on lines and squares by the methods (modified) of limits and of constant differences. Judgment of squares by side or diagonal is not more accurate than judgment by area. If Weber's Law is assumed, there is a fixed relation between limen and mean variable error ; if this relation is assumed, Weber's Law is valid. Various modes of average or absolute impression play their part ; there is no effect of practice.] **E. Becher.** 'Gefühlsbegriff und Lust-Unlustelemente.' [Discusses Wundt, Lipps, James-Lange, Stumpf, Ziehen. Pleasantness and unpleasantness are founded elements of consciousness ; other 'feelings' are fused sensations, formal characters of consciousness, intellectual part-processes, etc.] Literaturbericht.—Bd. lxxiv., Heft 3 u. 4. **H. Henning.** 'Künstliche Geruchsfährte und Reaktionsstruktur der Ameise.' [Experiments in the field on *Formica rufa*. Paths are

formed simply and solely by deposition of formic acid ; they may be laid down artificially. The olfactory limen of ants is certainly not lower than that of man. Ants react, on the all-or-none principle, to the familiarity or unfamiliarity of psychical complexes or total situations.] **H. Henning.** 'Die Qualitätenreihe des Geschmacks.' [The four taste-qualities are not isolated ; they lie at the angles of a tetrahedron, whose surface is composed of lines of intermediate taste-qualities.] **O. Abraham.** 'Töne und Vokale der Mundhöhle.' [Range and vocality of percussion tones, whistling tones, whisper tones, and tones obtained by blowing across the mouth. The relations of tonal quality, brightness and vocality are briefly stated ; a discussion of Köhler's results is promised.] **C. M. Giessler.** 'Analyse des Schreckphänomenes.' [Illustrations, with running analysis, of the experience of sudden alarm : first come surprise and illusions, sensory or ideational, and then a rush of more or less accidental explanatory ideas. In physiological basis, and in the preponderance of assimilation over apperception, the experience is like the dream.] Literaturbericht. **A. Gruenbaum.** 'Berichtigung.' **H. Henning.** 'Zur vorstehenden Bemerkung.' [Apropos of illusory stereoscopic movements.]

Archiv f. d. ges. Psychologie. Bd. xxxv., Heft 1. **W. Baade.** 'Ueber psychologische Darstellungsexperimente.' [A terminological paper, distinguishing experiments designed to 'exhibit' a mental process from those which illustrate a causal sequence and from those which combine both purposes.] **F. Boden.** 'Ethische Studien, ii.' [(1) The practical moralist must come to terms with the historical conditions of morality ; if he seeks to improve things, he must learn from history and experiment where the fulcrum for his lever is to be found. (2) A working ideal of personal happiness, as dependent upon personal exertion, may be set up by the combination of experimental pedagogy and ethics. (3) Hate is useful as incentive to activity. Hate becomes morally valuable only when it has a natural term (at which it gives place to love) and is intelligently entertained.] **O. Sterzinger.** 'Rhythmische Ausgeprägtheit und Gefälligkeit musikalischer Sukzessivintervalle.' [Under the conditions used, the higher tone carries the accent. The neutral interval is 0·55 sec. ; shorter intervals give iambic, longer give trochaic (and spondaic) rhythms. The individual intervals have a definite rhythmical stamp and a definite degree of agreeableness ; the curve of agreeableness culminates in the major third (simultaneous) or the fourth (successive intervals).] **E. Becher.** 'Ueber physiologische und psychistische Gedächtnishypothesen.' [The physiological theories of memory will not hold water (*Gehirn und Seele*, 1911). All the facts of memory and association are more naturally and more adequately explained if we assume unconscious psychical residues, and allow the psyche a directive influence upon nervous excitation (Stumpf's double-cause and double-effect form of interactionism).] **Krass.** 'Ueber neue Tasttäuschungen.' [Active illusions of form and magnitude.] **O. Kuelpe, G. Stoerring, W. Wirth.** 'Zur Richtigstellung : Erklärung : Bemerkung des Herausgebers.' [Apropos of Meumann's work in æsthetics.]

"Scientia" (Rivista da Scienza). Vol. xviii. Part 3. September, 1915. **G. Peano.** 'Importanza dei simboli in matematica.' [Inspired by Rignano's articles in vol. xvii. of *Scientia*, Peano considers the analogous question of the function that symbols have in mathematics. One advantage of the Hindu-Arabic numerals is brevity ; but they also constitute a new classification of ideas. Thus, to such words as 'ten' or 'a hundred' do not correspond simple symbols but compound ones. The use of these numerals makes arithmetical calculations easier, and renders

some calculations possible which could not be attained without them. As for the well-known symbols of algebraic operations, apart from the fact that they give brevity to mathematical language, they represent ideas and not words. Thus 'the sum of a and b' is translated by '$a + b$,' although the former expression does not contain the word '*plus*'. There are far fewer algebraic symbols than the words they allow us to represent. The evolution of algebraic symbolism is: Ordinary language; a technical language (Euclid's) in which is established a one-to-one correspondence between words and ideas; abbreviation of the words of this technical language, begun in the sixteenth century. The symbolism of the infinitesimal calculus is a continuation of algebraic symbolism, and calculations are made much easier because integrals have the fundamental properties of the ordinary sum. Geometry lends itself less to symbolism. The modern theory of vectors allows us to treat geometrical questions by a direct calculus, similar to algebra. The theory of vectors does not presuppose any knowledge of analytical geometry or even elementary geometry. The symbolism of mathematical logic was the last to appear, but it is in no way inferior to the above symbolisms. In any mathematical book, there are symbols which represent logical ideas. Mathematical logic classifies these ideas and represents them by combinations of a small number (about ten) of symbols. These symbols facilitate reasoning and the representation of complex ideas. It has been found that many forms of syllogism considered in scholastic logic lack one condition: that the rules for the definitions given in treatises on scholastic logic do not apply to mathematical definitions, and the latter are subject to other rules than those of ordinary treatises on logic. Rignano's criticisms hold against those who consider mathematical logic as a science in itself, but not against those who consider it as an instrument for solving mathematical problems which resist the ordinary methods.] **The. Svedberg.** 'Structure et forme des molécules. Hypothèse et réalité.' [Nernst and von Laue have shown that the concept of molecule is only applicable without restriction to gaseous and liquid bodies. But in this domain there are hardly any concepts which have shown themselves so fruitful, and of the reality of which we have such convincing proofs, as the concept of molecule. This valuable article can hardly be abstracted, as it is very technical.] **E. H. Starling.** 'The animal machine and its automatic regulation.' [The animal machine for the production of work is one in which there is a direct conversion of chemical potential energy into surface energy which is utilised for the production of contractile stress by the regular arrangement of the surfaces in muscle and their enormous multiplication. By histological differentiation the molecular forces so set free are summated to such an extent that, weight for weight, no man-made machine can be compared in efficiency with the numberless mechanical engines met with throughout the animal kingdom. A surface tension machine of this character presents moreover many admirable features. It is practically isothermal in its working. It has a theoretical efficiency of 100 per cent. when its regeneration has not to be provided for. It has a rapidity of action, which is seen in its highest extent in the wing muscles of a fly, giving 300 complete contractions and relaxations per second. But above all it is responsible for the ability of the heart to respond to changing loads and conditions in a manner which must always arouse our wonder and admiration.] **A. Meillet.** 'Les langues et les nationalités.' [The only allies of the Germans are groups who live by oppressing other nations. Whatever may be the origin of the war in the politics of the distant past, the essential part of the conflict is the wish on the part of Germany and Austria to increase their dominant *rôle*, and the refusal on the part of many nations to submit to this hegemony. Thus the war

appears as the consequence of the long conflicts which had the end of imposing the Indo-European language on a great part of the world, and of those conflicts which followed. The German pretension to hegemony has compelled the alliance of three powers so different as Great Britain, France, and Russia, of which the first two have no desire to extend their European domain and the third has no present wish for European aggrandisement.] **R. Michels.** 'Cittadinanza e nazionalità.' [The possession or not of rights of citizenship only gives a very superficial criterion of the nationality of him who possessés it. The result of fears, not on the whole unjustified, of the results of this fact has given rise to great sufferings in the case of foreigners unjustly suspected and persecuted. To avoid such suffering immigration will, after the war, be reduced and a sort of wall of China will be raised between one nation and another. 'This is a lugubrious vision, but what is the good of being silent about a peril which has already become almost a reality?'] Book Reviews. [The most interesting one is a review of the French translation of 1913 of M. Tougan-Baranowsky's book on industrial crises in England.] General Review. **C. Acqua.** 'De la libération d'énergie dans les processes respiratoires des plantes.' [Short *résumé* of what we know at present about the mechanism of the respiratory process.] French translations of the Italian and English articles.—Vol. xviii. Part 4. October, 1915. **A. Mieli.** 'La Scienza greca e le caratteristiche del suo sviluppo.' [People who have to do with deductive sciences usually have a different opinion on Greek science to those who have to do with inductive sciences. However, the author maintains that a general and impartial examination leads us to admit that, at each epoch of Greek thought, there was a very strict identity of method in science. The unity in the scientific character of the ancient world has as consequence that the development of the different sciences was due, not to the mentality of those who applied themselves to them, but to the special characteristics of the subject treated.] **P. Puiseux.** 'L'avenir des planètes.' [Takes account of the relations of geology, astronomy, biology, and thermology. 'The actual tendency of the sun is not to contract and be extinguished, but to dilate and be dissolved. . . . It seems probable that earthquakes are tending to die out or at least to stop before they have seriously compromised the solid envelope on which we live. The generating force of the seas and mountains will only wake up at a signal from the sun. But this signal will inevitably come. The sun, more instable than any planet, will bring about a great transformation of the whole solar system after having undergone it himself. . . . The security of our solar system usually believed in is only provisory and relative. . . . The intelligence which exerts itself to view possible catastrophes with calmness is a better support for a moral life than passive enjoyment of the present course of things.' This concluding sentence of the author's seems capable of other applications.] **C. Lloyd Morgan.** 'Mind and body in their relations to each other and to external things.' [A logically arranged discussion of the various possible points of view with regard to this relation. On the question whether prior awareness arises in the course of individual life or whether it may have arisen in the course of ancestral experience, we need more definite evidence.] **R. Muir.** 'The antipathy between Germany and England.' [An inquiry into the possible causes of this antipathy. The author is forced to the conclusion that the British have two qualities in a pre-eminent degree, sportsmanship and the instinct of self-government, 'both bred into our bones through centuries'. The Germans have not these qualities, and 'Science over against sportsmanship; discipline over against self-government. Could there be a sharper antithesis? It is not surprising that these contrasted qualities and interests should produce a difference of *moral* in the nations which

cultivate them.'] Book Reviews. [Among them books on the theory of relativity, the constitution of matter, and seismology.] Review of Reviews. French translations of the articles in Italian and English. —Vol. xviii. Part 5. November, 1915. **A. S. Eddington.** 'The stellar universe as a dynamical system.' [For the solar system a dynamical treatment has long been successful; but the study of dynamics has found but little application as yet in the outside system of stars which comprehends all, so far as present knowledge extends. However the progress of observational knowledge of the stellar system has in recent years been rapid; and it may now fairly be claimed that some attempt to understand the dynamics of the system is justified by the facts that have been brought to light. The author reviews some applications of the conception of the stellar universe as a dynamical system, and concludes with a remark which is of great philosophical interest in connexion with the validity of the traditional dynamics: 'The development of a theory of stellar dynamics must necessarily proceed by advanced mathematical methods beyond the scope of the present article. Moreover, the steps which have as yet been taken must be regarded as tentative. We have here only attempted to bring together the various considerations—some of them well known—which must determine our view of the general nature of the forces acting on the stars. We have seen that at one point in particular a parting of the ways lies ahead. The one path leads to a system of dynamics familiar in its application to the theory of gas-molecules. We believe that the evidence is now conclusive that this must be rejected, and the other path taken. By that we arrive at a system novel to dynamics, but apparently presenting no greater mathematical difficulty than the more familiar molecular theory.'] **Ch. Fabry.** 'Les atomes lumineux et leurs mouvements. Iere Partie: Les mouvements des particules lumineuses.' [An account of the services rendered by the molecular theory to the study of luminous gases. The atomic theory leads us to regard such gases as formed of a finite number of distinct and free particles: without concerning itself with the nature of these luminous particles and the cause of their radiation, the study of the light emitted gives a direct means for the study of their motions, which is the same as that which astronomers use to measure the velocities of the most distant stars. In this first part the motions of the free luminous particles in a gas are studied without seeking to explain the mechanism of their radiation. In a second part, the author will try to give an idea of the hypotheses invented to explain the mechanism of radiation,—a problem which is directly connected with that of the constitution of the atom, that is to say, of all material bodies.] **M. Vallauri.** 'La medicina indiana.' [In India as elsewhere medical doctrines were a consequence of religious theories, and those of these doctrines which appeared in the most ancient period of Hindu literature (the Vedic age) have a special value for us because they mark the historical and natural origin of the study of medicine in India. Vedic medicine; Mythical origin of Indian medicine; Buddhism and Medicine; Medicine as a particular science; Principal classical sources; Historical evolution of medicine; Medicine in practice; The form of composition of texts; Foundations of Indian medicine; Pathology; Method of exposition of the treatises; Hygiene and gynæcology; Intrinsic and extrinsic value of Indian medicine.] **P. Bonfante.** 'Verso la confederazione europea.' [The coalitions which are formed owing to the necessity of carrying on a great war are always markedly inferior to Unions. The least Utopian of Unions is a Franco-Italian Union, as a prelude to a Latin Union and as a preparation for a European Union.] Book Reviews. Review of Reviews. Chronicle. French translations of articles in English and Italian.

VIII.—CORRESPONDENCE.[1]

To the Editor of "Mind".

Sir,

In his notice of my *Introduction to the Science of Ethics*, Mr. A. E. Taylor writes: "And it is more than hazardous, it is appallingly false to say that Plato tells the philosopher to put himself 'in a sphere where courage, temperance, and even justice have no place'. One wonders if Mr. De Laguna looked up the description of the philosophic character in *Republic* II. [*sic*], before writing this amazing sentence."

In my text the sentence in question reads: "But *so far as he can* he puts himself in a sphere where courage, temperance, and even justice have no place—the realm of pure theory" (p. 142). I venture to say that so far from being amazing this is a commonplace of Platonism. What is amazing is that the sentence should have been quoted without the qualifying clause which I had italicised, and the significance and importance of which I had emphasised throughout the paragraph.

Mr. Taylor quotes me as crediting Plato "with a 'boundless contempt for the mass of mankind,'—a judgment probably inspired by popular misconceptions about the politics of Plato's family". I did ascribe to him "an unmixed contempt for the masses of mankind" (p. 134); which is apparent enough throughout the dialogues from the *Gorgias* to the *Laws*. Pertinent illustration is given (pp. 137, 155). Perhaps, however, what to a thorough-going democrat seems contempt for the masses, is to Mr. Taylor only a fair and sympathetic estimate. But have inverted commas no meaning?

Mr. Taylor mentions as "significant" the fact that I apparently made no use of the *Philebus* or *Laws*. He did not observe that the account is purposely limited to the ethics of Plato's middle period, and that the reader is expressly warned that it will not hold without modification for the later period. Why, in an elementary work, this limit should have been set, any good pedagogue will understand. The further statement, that I gave no evidence of having used any part of the *Republic* except Book IV., is not only false but wantonly careless. On page 144, for example (under the caption, "Qualitative Differences Between Pleasures"), the use of *Republic* IX. is unmistakable. Here, as elsewhere, the vigour of Mr. Taylor's criticism is in striking contrast with the slipshod character of his reading. As a matter of fact, short as my treatment is, nearly every book of the *Republic* is drawn upon in some slight measure.

The remarks upon the constructive portion of my work are equally at variance with fact.

Theodore de Laguna.

Bryn Mawr College,
20th October, 1915.

[1] A letter from Mr. H. S. Shelton has reached us too late for insertion in the present number. It refers to the editorial note on Dr. Mercier's Discussion which appeared in the January Mind. It will be published in the next October number.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—THE PHILOSOPHY OF VLADIMIR SOLOVIEV.

By Prof. L. M. Lopatin.

(*Translated from the Russian by* Alex. Bakshy.)

[The following biographical data should be mentioned here as supplementing those stated in the article below. Soloviev was born in 1853 and died in 1900. At the age of twenty-one he was given a chair of Philosophy in the University of Moscow, which he held for three years, and a few years later —again for a short period—held a similar chair in the University of St. Petersburg. He not infrequently appeared before the public as a lecturer, in which capacity he evinced a remarkable gift of eloquence, but the greater part of his life was devoted to literary work. Of his works the most important are *The Critique of Abstract Principles* (1880); *Lectures on God-Mankind; The Spiritual Foundations of Life; The History and Future of Theocracy; La Russie et l'église universelle* (published in French); *The Justification of Good;* the series of articles comprising the two volumes of *The National Question in Russia; Three Discussions on War, Progress and the End of History* (translated into English) and a book of poetry.

The article by Prof. Lopatin—a personal friend of Soloviev since their schooldays and a professor of philosophy in the University of Moscow—was originally read before the Moscow Psychological Society at its meeting of 2nd February, 1901, held in commemoration of Vladimir Soloviev.—A. B].

I.

The time has not yet arrived for passing an impartial and exhaustive judgment on the philosophic activity of Vladimir Sergeyevich Soloviev. The truth of this becomes apparent when one recollects the diverse, contradictory and sometimes extremely strange opinions of his personality and work which appeared in the press after his death. There is one thing, however, about which, it seems, all his critics must agree—no matter whether they accept his theories or do not, whether they see in his philosophical works a clearly indicated path to truth, or whether they, on the contrary, believe that he from his very first steps went astray and that his philosophical ideas are the result of complete misunderstanding. Everybody will agree that in the person of Vladimir Soloviev we have a thinker of singular originality. For my own part, I will repeat what I once before stated at a meeting of the Psychological Society: it is my belief that, if we consider the last twenty-five years, Soloviev was the most original philosopher in the whole of Europe.

Russian philosophical thought since the time of its first infantile struggles in the eighteenth century, dragged out a miserable and exiguous life during a very long period. Its main deficiency lay in the complete lack of originality in speculative work which might express itself in literary form and bring about definite and systematic results. Russian philosophers were merely followers of foreign European thinkers, and followers only of the second rank. Their value and importance in the history of Russian spiritual development is measured not so much by their intellectual power as by the flag they followed. We had followers of Wolff, of the French sensationalists, a few followers of Kant and Fichte, and a good many admirers of Schelling and, particularly, of Hegel. Representatives of theological scholastic metaphysics were not a few, but they also borrowed their ideas from the West. The choice of a European authority to whom one or another Russian philosopher thought best to adhere was determined by the time in which he lived, by the social position he held and the profession he followed. In the 'fifties and 'sixties of last century the admirers of the German idealism gave place to materialists of the Buchner and Vogt type and to positivists of the French and English schools. Amongst these various groups all deriving from foreign sources, the most intellectually original were the Slavophils. Their attitude towards philosophy, however, was rather negative than positive, and in their general philosophical views they confined

themselves to disapproving criticisms of the German idealism, chiefly as expressed in the system of Hegel, and to sufficiently frank admissions that no speculative philosophy is sound unless it is based on the positive Church-creed. Amongst the followers of other schools originality of philosophic thought is met with only as a rare exception. The most brilliant instance of this kind was B. Chicherin, who made an entirely original use of the principles and methods of Hegel's philosophy on the basis of the Cartesian dualism of matter and spirit. Chicherin's ideas, however, received their final literary expression at the time when the philosophical theories of Valdimir Soloviev had already been fully formulated and his first works brought before the public. For this reason Chicherin cannot be regarded either as Soloviev's predecessor or as his teacher.

To understand and appraise at its full value the importance of any given philosopher one must know the environment in which he was brought up and the spiritual atmosphere in which his work was carried on. What were, one may ask, the characteristics of the intellectual life of Russian society at the time when Soloviev's first philosophic questionings and doubts suddenly awoke in his mind? His childhood and youth were passed in the epoch which has been memorable and beneficent for Russia through the universal revival of Russian life which marked the end of the 'fifties and 'sixties. The contribution of that epoch to the public life, literature and science of Russia was tremendous. But philosophy fared badly at that time: the interest it aroused was very meagre, and thanks to its long exclusion from the list of subjects of University training it was very little known. The literary press of the period devoted itself mainly to the popularisation of various books written by followers of materialism, which provided a most perverted view of the true problems of philosophy. Materialism of the crudest brand, preached on occasions with much brilliance but without sufficient knowledge, passed as the final, scientifically established truth which was to be made the basis of solving every problem of life and thought.

The small band of writers with true philosophic education was divided into two groups: one endeavouring to adapt the traditions of the German (principally, the Hegelian) idealism to the new requirements, whilst the other, stronger by far in point of numbers, vigorously fought against all philosophic traditions, against every kind of speculation generally, and saw the only source of authentic knowledge in positive science and the experimental study of nature. As I just

mentioned, at that time the positive movement obtained a firm hold on the public mind: the names of August Comte, John Stuart Mill, Herbert Spencer and Lewes enjoyed universal recognition and widespread popularity. The celebrated law of the three phases of intellectual development of mankind as formulated by Comte was regarded as a final revelation of the inner meaning of human history. This law declares theology and metaphysics to be involuntary delusions of the human mind which will for ever disappear from the arena of history when once the light of scientific knowledge shall have illumined all the phenomena of the observed world. The only way to truth, according to this law, lies in absolute rejection of all attempts at penetrating the real substance of things, and in the limitation of all claims to knowledge to the ascertaining of the actual relations existing amongst various phenomena of nature, *i.e.*, in other words, of natural laws. To justify this point of view the Russian writers of that period were ready to advance the logical and psychological theories of the English thinkers, because of their out-and-out empiricism. On the other hand, the system of Herbert Spencer, logically harmonious and well sustained, which seemed to solve all the problems by means of the sole principle of cosmic evolution, performed the same service for many educated Russians of that time as the system of Hegel had done for the generation of Belinsky. The authority of Darwin was even greater, for his theory of the origin of species was believed to have for ever disposed of all hypotheses which see some inner significance and wisdom in the processes of life, and to have reduced all intelligence and teleological motive in nature to the play of chance in mechanical selection.

Vladimir Soloviev experienced in himself all these influences. Amazingly well-read even when still a youth, possessed of a deep and extremely impressionable mind, he always combined a remarkable independence of judgment with a rare responsiveness to the spiritual interests of the people around him. There was a period in his life when he was a thorough materialist—in his early years, however, when he was barely more than fifteen. He found then the final truth in those very notions against which he afterwards fought with such relentless vigour. Never since have I met a materialist so passionately convinced. He was a typical nihilist of the 'sixties. He believed that in the fundamental principles of materialism there stood revealed that new truth which was to expel and replace all former beliefs, to invert all human ideals and notions, to create an

entirely new, happy and rational life. With that irresistible consistency which always distinguished his intellect, he extended the application of his general ideas to the solution of all the questions that engaged his mind. There was a time when under the spell of Pissarev and his critical ideas and demands, he was violently opposed to the pure poetry of Poushkin, which later he valued so highly. Thoroughly versed in the works of Darwin when still a student, he earnestly believed that the theories of this great naturalist put an end for ever not only to every kind of *teleology*, but to *theology* as well, and generally to all idealistic superstitions. His social ideals at that time were pronouncedly socialistic or even communistic. He carefully studied the works of the famous exponents of socialism and was deeply convinced that the socialist movement was destined to regenerate humanity and to renovate history in a most radical manner. Even at this early period of his life there was always manifest in him the peculiar trait of his mind and character: his utter inability to make compromises with the life of his time, and his unshakeable faith, never influenced by any disappointments, in the supreme power of ideals over real life. I have never met another man so whole-heartedly, one would say, so nobly and simple-heartedly convinced of an imminent and near triumph of absolute good in this world. In the years of his early youth he looked for the realisation of this ideal to a socialistic revolution. In his more mature age he saw it in a theocratic organisation of mankind, in the ultimate victory of the Church, as the guardian of the higher spiritual ideals, over the civil capitalist state, void of principles, hypocritical and utterly opportunist. This triumph was blended in his beliefs and aspirations with the idea of the proximity of the second Advent and of the regeneration of every being through the purification and deification of man. I repeat, the most characteristic feature of Soloviev was his faith in the realisation of all these events in the immediate future. The faith in an historic future provided the deepest ideal motive-power for the past century and for many a mind it held the place of religion. What singled out Soloviev from amongst his contemporaries was the fact that with him this faith assumed most realistic forms, and that at least during the greater part of his life it rested on his religious belief.

Soloviev's adherence to materialistic ideas lasted but a short time. His mind was too deep, his critical tact too great, and, lastly, his nature simply too full of inner idealism, poetic yearnings and religious enthusiasm to admit of his resting satisfied with the pretentious and all-sufficient dogma

of the materialistic system. From the self-complacent dogmatism of materialist theories he was awakened by his extremely varied and serious reading. At the age of sixteen he acquainted himself with the works of Spinoza, carefully read and studied them and soon became their enthusiastic admirer. At first he tried to interpret Spinoza's philosophic ideas in the spirit of materialism, but gradually it became manifest to him that such attempts were doomed to failure. Thanks to Spinoza, God, though as yet in an extremely abstract and naturalistic image, for the first time returned to Soloviev's conception of the world. Spinoza was followed by an enthusiastic reading of Feuerbach, who, though in his latest period much inclined to materialism, never was a dogmatic materialist, and on the whole did not go farther then an indefinite and very capricious preaching of sensationalism in the sphere of theory, and of the cult of mankind in the sphere of practical activity. Simultaneously Soloviev seriously studied the works of John Stuart Mill and absorbed his subtle and original scepticism, which, equally condemning both materialism and spiritualism, insisted on the equally absolute unintelligibility both of the substance of spirit and of the substance of matter. Apparently owing to Mill, Soloviev began to see with the greatest clearness that all was not well with materialism, and that the materialistic doctrine which rudely warred against every belief in a spiritual world as a crass and ignorant illusion, itself rested on an even more crass belief in the absolute, primordial and totally independent reality of matter, whereas neither matter nor anything material is given directly to our consciousness, but is invariably revealed to us through our sensations and notions, *i.e.*, through states of the spiritual or psychic order, which alone can claim to be authentic and indisputably real.. Finally, the greatest change in Soloviev was brought about by his studies of Kant, and, particularly, of Schopenhauer: he was affected by the latter as by no other philosopher, before or after. At one period, though it lasted but a short time, Soloviev accepted Schopenhauer in all his entirety, with all his general views and particular opinions, with his boundless pessimism and his vague hopes of atoning the world's sufferings by merging into Nirvana. In Schopenhauer, Soloviev was able to find what no other of his favourite thinkers, with the exception perhaps of Spinoza, could give him, namely the satisfaction of his ever-present religious yearnings, his religious outlook and religious attitude towards life. He was particularly attracted by Schopenhauer's idea of life as a morally-purifying process, the idea

which was rigorously developed in the spirit of speculative Buddhism. It was for this reason that after studing Schopenhauer, Soloviev gave himself passionately to the study of Eastern religions.

But even this enthusiastic acceptance of Schopenhauer was but an episode in the intellectual growth of Soloviev. Partly owing to the works of Edward von Hartmann, and partly to his independent examination, Soloviev became conscious of the speculative defects of Schopenhauer's system —of its incompleteness, one-sidedness and its logical inconsistency. A serious study of the religious history of mankind convinced him that the true religious ideal lay neither in the negative pessimism of the Buddhists, nor in the illusionistic monism of Indian Brahmanism. He began to perceive, ever more clearly, that the intimate faith of his childhood (and he had been a very religious member of a very religious family) was not directed entirely to deceptive phantoms as he had thought, and that it did not at all delude him in its most essential points. At this time he took up the study of the systems of the German idealists: Fichte, Schelling and Hegel, trying to find in them the key to the speculative solution of the problems of being. Schelling's positive philosophy had a particularly strong influence on his thought. He had already gathered from Hartmann the impression that Schelling's system was one which reconciled the extreme points of divergence between Schopenhauer and Hegel. But Soloviev never became as faithful a follower of Schelling as he had previously been of Schopenhauer. A new day had already begun to dawn for him: gradually he evolved from his mind a philosophical system that was unlike the others and entirely his own.

So, I may repeat, Soloviev had his own philosophical system. I even venture to think that it was not in any way inferior to any of the most profound German systems created during the best period of German speculation, that is, the end of the eighteenth and the first half of the nineteenth century. It can even be reasonably maintained that thanks to its later appearance the system of Soloviev was more mature and broader in conception than the creations of his predecessors. He had to take into account all the intermediate process in philosophic and scientific thought which lay between them. He was compelled to abandon, with bitter disappointment, many illusions and untenable hopes which had beguiled earlier thinkers. Finally, in his system he willingly gave place to the newly established truths of science and the newly grown claims of public consciousness, which had been non-existent for their generation.

Soloviev evolved an original and independent system of philosophy. This happened in Russia for the first time. A comparison with Russian literature is naturally brought to mind. Just as Russian literature during a very long period was merely imitative and our writers concerned themselves more with copying the manners, tone, ideas and feelings of their favourite western writers than with portraying life as they saw it themselves, in the same way Russian philosophic thought during a great many years was a mere reflection of the intellectual movements of western Europe, devoid of all independence, weak, desultory and intermittent, whilst Russian philosophic writers were more preoccupied with the opinions of various western celebrities concerning the subjects of philosophic knowledge, than with those subjects themselves.

Poushkin was the first to deal with, not the literature of reality, but reality itself as he understood, saw and experienced it. Through this he became the first creator of a truly artistic Russian literature. Soloviev was the first to write not about other people's opinions on problems of philosophy, but about those very problems, solving them according to their nature and independently of all accepted opinions. Through this he became the first representative not of a reflected foreign, but of a truly Russian philosophic thought. I do not mean to imply by this that in the intellectual life of the Russian people Soloviev holds a place exactly equal in importance to Poushkin's. But the importance of abstract philosophy cannot generally be compared with that of literature. This kept in mind, it remains true that Soloviev was the first Russian truly original philosopher, just as Poushkin was the first Russian national poet.

This comparison may perhaps be carried even further. Just as the contemporaries of Poushkin ceased to understand him, the moment his genius attained to its full power and originality and his works no longer resembled the familiar and universally accepted specimens, similarly Soloviev remained misunderstood, unappreciated and practically alone, until the end of his life, upon those very sides of his philosophy which were the most fundamental, most important and most essential. No doubt the supreme beauty of his utterance, his poetic genius, his wonderful talent as a public writer, the brilliance and pitiless wit of his polemic methods, were all highly appraised. But his philosophical ideas remained a sealed book for the greater majority of the Russian public which inclined to regard them as eccentric expressions of a whimsical though great mind, rather than to see in them a serious product of philosophic thought, born at a certain

moment of its natural and inevitable inner development. Indeed, as a representative of his own conception of the world Soloviev was understood and appreciated only by very few.

Not only in his own country did Soloviev remain alone during the whole of his lifetime. Not less lonely must he have felt himself in the rest of Europe, amongst all the intellectual classes of his time. I do not mean only that outside Russia he was little known and read, as this has ever been the fate of Russian thinkers. He must have felt himself lonely for the simple reason that the current of philosophic thought in western Europe ran in the direction which was utterly opposite to his own beliefs and aspirations. The prevalent frame of mind amongst Russian philosophers which prohibited their understanding Soloviev was itself only a reflection of the philosophical spirit of western Europe. In the true words of Soloviev, the western philosophy during the whole of his lifetime was in a state of long and painful crisis, and even now it still continues to be in that state. All the approaches that the past had suggested towards the solution of the basic philosophic problems were explored to the end, but they did not bring us into the presence of truth: rather did they cause disappointment, perplexity and even utter despair in ever attaining it. The philosophic thought of Europe during the second half of the last century reached only a state of weariness and self-distrust which was in striking and painful contrast with the rapid pace of the positive sciences, with their enormous popularity and the bold hopes they aroused of penetrating all the secrets of cosmic life. The result produced was natural and easy to understand: philosophy capitulated before science. Philosophers gave themselves up to waiting on representatives of the natural sciences and undertook the ungrateful task of proving and demonstrating as speculative truths what learned naturalists advanced as convenient and useful hypotheses. There was created even a special type of metaphysical schematisers of the generalisations of positive sciences. The most striking representative of the philosophers of this type was Herbert Spencer, but by no means the only one: there were and are even now many like him both in Russia and in western Europe. Perhaps what haunts the philosopher of our days most is the fear of finding himself in disagreement with the accepted opinions of learned specialists even when discussing the fundamental and important problems of human knowledge, however little these may have to do with the special qualifications of such scientists. Only in the humble and faithful agreement with the general tendencies of science

is the guarantee of the success of philosophy seen and admitted.

Soloviev by all his intellectual and moral constitution was unable to think and believe in this manner. The most conspicuous feature of his spirit was an extraordinary vigour and boldness of thought, sometimes changing into an unbridled daring. Philosophical problems stood before his mind with such actuality that he could not lose his intellectual courage or be content with solving them by means of platitudes or fashionable formulæ. In comprehension of the actual world he could not restrict himself only to what the physicists and chemists say of it, as he was only too deeply convinced that the substance of reality was far from being limited merely to what could be measured, weighed or felt. On the other hand, he could not compel his thought to stop motionless and satisfied for ever at the borderland where the experience of our senses ceases to raise its voice. His intellect, truthful, penetrating and deep, rebelled against all external vetos, all restraints on the spirit of inquiry, all arbitrarily established spheres fenced off against knowledge and investigation. And it was the same spirit that made him throughout the whole of his life such an ardent champion of freedom of thought and conscience. The failure of the old methods in philosophy provided him only with a further proof of the necessity of finding other, new methods, which had not yet been tried or perhaps had not been explored to the end. Nor could his mind rest content with either materialism, or with physics metamorphosed into speculative metaphysics—in whichever form this might have been carried out, whether in the form of recognition of the principles of physics as the inner substratum of all reality, or whether in the more unassuming form of the neo-Kantian doctrine which admits intelligibility only of what is open to external physical observation, though this solely intelligible may be a mere illusion of our intellect and senses.

On the other hand, Soloviev as clearly saw the utter weakness of the old rationalistic idealism of Hegel and his school which in the infinite variety of cosmic life found only a miraculously incarnated and objectively realised dialectic play of abstract ideas. In these circumstances Soloviev took a step which determined his future philosophic fate.

At a time when mysticism and metaphysics became terms almost of reproach, when spiritualism was regarded in philosophical and psychological circles as a sorry superstition of the outgrown past and only by grace of special indulgence admitted as an unprovable subjective belief or a consoling

dream conditioned however by obligation to accept the mechanical and physiological interpretation of psychic life as the only authentic one—at a time like this Soloviev openly took up his position in philosophic literature as a mystic, metaphysician and spiritualist. Nor did he limit himself to establishing the general philosophic principles which he personally considered to be the only true ones: he moulded his fundamental ideas in an exceptionally complete, living and concrete system in which there were blended into one organic whole an explanation of the main phases of the evolution of nature, an extremely broad and original conception of human history and a highly idealistic interpretation of the moral meaning of life and of the moral task of mankind.

I have already spoken concerning one original trait of Soloviev's mental outlook: his extraordinarily realistic faith in a near and final triumph of truth upon earth. This trait was intimately bound up with another peculiarity of his mind: he generally held a most realistic faith in the complete independence and reality of ideal or spiritual powers in the life of man and nature; he believed in a never-ceasing manifestation of their controlling influences in everything we experience, and in their intimate connexion with man and his inner world. The ideal, the spiritual world was for him not a mere abstract term In his eyes it appeared imbued with life—a world surpassingly truer and more concrete than that of material dispersion and externality which is open to our restricted, illusion-fraught senses. In his conception of the world Soloviev was in this respect a true Platonist and seemed to have been incapable of any other point of view. His poetic imagination, apparently, contributed not a little to that conception, as in all the phenomena and processes of reality which surrounded him he invariably felt the presence of some inner soul that gave them life. This also explains why the notion of the *Soul of the World* held such a prominent place in his philosophical system; also why in his theory of knowledge he gave to the direct intuitive contemplation of the inner truth of things as known to the artist and the poet a higher place than to sensory experience and abstract speculation: he held that the philosopher, too, will obtain real knowledge only when he has, living in his spirit, this power of higher contemplation of what is truly real in himself. This realistic faith in a spiritual world explains the vitality, integrity and concrete character of Soloviev's system.

The same faith, however, may be held responsible for its chief defect. In the dialectical construction of his world-

conception he regarded all the elements and links in that construction as equally valuable in the sense of objective authenticity, and also as equally essential, considering as logically necessary not only the general principles of his system, which can be indisputably deduced from strictly speculative premises, but also all the applications of those principles in the explanation of every particular manifestation of reality and of every single event of the history of the world and of man, which as such obviously admit of no absolute *a priori* justification. In this respect Soloviev failed to differentiate between statements actually possessing the necessary logical certainty and statements that were merely probable or even possible or conceivable only. In this characteristic defect of Soloviev's philosophy one can see the peculiarity of a poet's mind: since for a poet the general idea of his work, and all the details and particulars of its realisation are both equally dear. On the other hand this defect was a natural consequence of that somewhat exaggerated appreciation with which Soloviev looked on the dialectic method introduced into philosophy by the German idealists, and by Hegel in particular. This method certainly possesses some indisputable and important advantages; but its basic assumption of the possibility of deducing all the particular forms, properties and laws of being, even the fundamental facts of its development from a single wholly abstract principle by means of pure speculation, is by its nature impossible of practical realisation.

Soloviev did not always see and understand this difficulty, and this very fact evinces more than anything else how serious was Hegel's influence on his philosophy.

This influence, however, found its expression only in some of Soloviev's methods. In the contents of his ideas he was a direct antagonist of Hegel and criticised that philosopher's system with almost pitiless banter. Taken in his positive views he, as I have already mentioned, might be said to approach Schelling's second system. Perhaps, even greater likeness could be found between the philosophical ideas of Soloviev and those of the well-known German philosopher of the first half of last century, Franz Baader, though it should be noted in this connexion that Soloviev, apart from his superiority over Baader as a thinker and writer, made his acquaintance with Baader's works at a time when his own ideas had already been completely formed. For this reason no charge of plagiarism can even be discussed, and if anything could be maintained at all this would be the existence of a similar influence which both these thinkers experienced from

Jacob Boehme. Soloviev held in high esteem the works of this original mystic of the seventeenth century (crude, perhaps, but instinct with genius) for their directness and for the depth of their speculative and religious ideas. He also took a lively interest in the works and personality of Swedenborg, and was a great admirer of some of the mystics of the Middle Ages and of those reverend fathers who were remarkable for their speculative and mystical tendencies. Of the ancient philosophers, Plato and the Neo-Platonists, and amongst the latter Plotinus, whom he carefully studied, in particular, had the most powerful influence upon him. Amongst the Russian thinkers the most prominent part in his spiritual development, without doubt, belonged to the Slavophils. In the days of his youth these, particularly in Moscow, formed a compact group which contained not a few men of independent and deep philosophical training. They wrote and published little, but their philosophic views were not seldom marked with considerable originality. From their conversations as well as from the philosophical and theological works of the founders of Slavophilism, Khomyakóv and Kireyévsky, Soloviev in his younger years derived a great deal, which accounted for the fact that when first appearing in the literary arena he was wholly associated with the Slavophil movement. In some respects he remained a Slavophil during the whole of his lifetime, though nobody has dealt such a tremendous blow to Slavophilism as did he when in his merciless polemics against the later epigones of this doctrine he with inimitable subtlety and brilliance reduced to absurdities the basic principles of its historic theory.

It would be an impossible task to state in a short and discursive paper (as ours under the circumstances unavoidably is) the whole system of Soloviev with all its details and nuances, with all the premises and conclusions essential to its inner unity, and also with all the changes which it underwent during his life. Considering the extreme subtlety of Soloviev's dialectics, the enormous variety of methods he sometimes employed for illuminating the same philosophical problems from different sides, and the mosaic complexity of logical sequences in development of one and the same idea, it will be realised that such a paper would, unless accompanied by detailed explanations which would naturally take up some considerable time, represent a dry record of often cryptic schemes and apparently unconnected conclusions. For this reason I propose to state with all possible clearness and simplicity and in their most essential aspects the basic principles which underlay all the details of Soloviev's system,

however much this fluctuated and changed in its separate points from time to time.

II.

The general meaning of Soloviev's philosophical system may be reduced to three main points: (1) the idea of inner spirituality of all being; (2) the idea of absolute all-unity; (3) the idea of God-Mankind.

In his deep and extremely ingenious criticism of the materialistic doctrine Soloviev persistently argues that the external properties of things, such as impenetrability, extension, mobility, etc., do not express their true essence, but only their external relations to each other. At the foundation of every external force there always lies an inner force: all that is material must needs find its basis in the spiritual. For this reason the first principle of things is an absolute and infinite spirit, which also determines the relation between the first principle of things or God, and the world: God is not an absolute indifferent and pure unity excluding from itself all plurality and sunk in itself in its motionless immutability, as he was regarded by the ancient Hindus and the Greek philosophers of the Eleatic school. God is a living spirit and his life is realised in his thought and his will. He is the creative might of all being, the source of the infinitely varied forms of reality. He is the creative Love which gives birth to the universe as something separate from God yet near to him, and destined to reflect in itself the fullness of Divine perfection. Owing to this God is not only the basis of his own single life, but at the same time the source of everything else existing, he is the *All-One Absolute*. The world in space and time, composed of beings that differ from, and are impenetrable to each other, stands in opposition to the world of God in which all is one and inwardly bound up in the one thought, one will and one self-consciousness of the absolute spirit. This opposition severs the world from God and provides the cause of the harrowing and painful struggle within it and of the supremacy which the blind elemental powers enjoy in it. Such is the world as given to our observation, but such it must not be. God is Love. He wants good and not evil, harmony and not strife. He created the world as his living image and not as his denial. The world must become worthy of the Will which gave it existence, it must assume to itself the highest good, the highest truth, the highest beauty. The inner significance of the cosmic-process consists in the gradual realisation of this object—in the gradual submission of the chaotic principle of

nature to Divine Might and of its as gradual assimilation of Divine Spirit. Its completion is attained by the world-process in man, who is already a true image of God, since by means of his reason he can penetrate to the ideal substance of reality. Man is the living incarnation of Deity in the material world, and he may be called the *Second Absolute*. In order to become this incarnation, however, man has to rise above sensual, egotistic motives and to make his own the will of God. Then he will become a *God-Man*. Christ was such a God-Man and for this reason his personality formed the central-point in world-history. But the purpose of men is that of attaining to greater purity and holiness, and not only in their capacity of private individuals but also as a social organisation. When this is realised the whole of nature will experience a metamorphosis: the material division and the blind elemental struggle will disappear from it, and it will be transformed into a luminous embodiment of the kingdom of purified spirits joined in the one life of the absolute spirit. The moral demands made upon men are determined by this supreme object of their existence. Freedom, equality and brotherhood, these are the foundations of moral life, in which the most indefeasible human rights and the most irrevocable human duties take their roots.

Coming now to a more detailed statement of Soloviev's philosophical ideas, I have to reiterate that he arrived at his peculiar mystico-idealistic system after he had experienced a complete disappointment in materialism and positivism, and, on the other hand, after he had carefully studied the rationalistic systems of the German idealists of the first half of the nineteenth century. By reason of this, criticism of realism in its various forms and of abstract rationalism occupies a most important place in his works. The development of his thought in this respect, taken in its broadest outlines and inevitably condensed, may be stated as follows.[1]

Human thought commences with a naive faith in everything of which we obtain evidence from our senses. What man sees, hears, touches or experiences through any other sense he considers as actually existing and as having those very properties which he finds in his sensations: if an object gives a sensation of *redness* it follows that it is itself *red;* if it produces in our tongue a sensation of *bitterness* it means that it is itself *bitter*. From this point of view all the sensations of man are instantly and without further consideration transferred into the world of external reality, independent of

[1] See particularly his *Critique of Abstract Principles*, Chapters xxv.-xl.

the beholder. This point of view may therefore be reasonably called *naive realism*. It is quite natural in itself, but this does not protect it from proving wholly unsound when once it is subjected to the slightest criticism. One and the same thing may produce in different persons entirely different sensations. For instance, the thing which appears warm to one may appear cold to another. Does it follow that the object is warm and cold at one and the same time? To one and the same man the same thing in different moments may give dissimilar sensations, according to the state of mind in which he may happen to be. Thus what seems bitter to-day may appear sweet to-morrow. Does it follow then that when we change, all the objects change with us? Our sensations disappear and again reappear in our consciousness every second, with every turning of our eyes, with every movement of our body. Does it follow that the objects themselves disappear and reappear every moment? It is obvious that if we want to recognise in the external world a reality, independent of ourselves, we must admit in the external objects properties which are different from our sensations.

From the recognition of this truth starts *philosophic realism*: it sets itself to the problem of eliminating from the external reality those qualities which are appearance merely, and retaining those which are inherent in the thing itself. Solutions of this problem in the history of human thought have been many and various, but one of them merits our special attention for its logical consistency, its sharp completeness, its manifold connexions with various hypotheses of positive science, and lastly for the important position it holds in our time. This solution belongs to materialism. Every variety of materialism has two fundamental characteristics: (1) it attaches sole and absolute reality to the external world and regards our own being in all its completeness and significance as an inevitable result of the processes taking place in that world; (2) it removes from the series of definitions of that reality all those relating to the qualitative diversity of our sensations, and to their tonality and, lastly, to our ideal appreciation of them, whilst leaving to reality, as inseparable from it, only the geometrical and mechanical properties of extension, mobility, impenetrability, inertia, etc. Of these, two properties are of special importance as they explain the possibility of the rest: they are *extension* and *impenetrability*. Extended and impenetrable matter is the essence of all things, the only absolute in the world—such is the basic principle of every form of materialism.

In what manner, however, is this absolute to be conceived

of? Is it something that is one in itself, rising above every kind of plurality and complexity, inwardly infinite, unchangeable, complete in itself and self-determining—as the absolute substratum of things is understood in all the other systems of philosophy? But this generally held notion of the absolute is just such as cannot be applied to matter. The latter is extensive, therefore it consists of parts lying in different places and excluding each other. It is impenetrable, but what would be the object of such impenetrability for an absolute that is one and complete in itself, when there is nothing outside it? How and against what could it evince this property of physical impenetrability? Matter is movable. But where would this infinite absolute move when it contains everything within itself and there is nothing beyond itself? And so on. One of the two things must be chosen: either matter is an absolute unity—then all its material properties must be rejected and it ceases to be matter; or, its properties do actually belong to it—then the idea of its absolute unity must be immediately dismissed.

In this their lies the logical necessity of transition from materialism to *atomism*. Materialism can be reasonably maintained only in the form of the atomistic theory. From the atomistic standpoint, absolute reality belongs not to the objective world as a whole, not to matter in all its combinations —as matter is only an aggregate of component particles—but to those very particles which are indivisible and immutable. These indivisible particles, the atoms, are extensive, impenetrable and movable. They are consequently in a state of constant interaction and by their infinitely varying collisions produce all the forms of cosmic life. Even atomism, however, with all the apparent simplicity and clearness of its premises, possesses certain essential defects admitting of no correction, which forbid its acceptance as the final solution of the problem of knowledge. We attribute to atoms a primordial, unconditioned reality, whereas all the properties which we suppose in them flatly contradict such a notion: all the properties of atoms as they are represented by materialism are entirely relative and conditional, indicating only the relations of some atoms to other atoms, but in no way showing what constitutes the reality of atoms taken as such. In point of fact only the actions of atoms in the medium surrounding them are determined by those properties, and not the peculiar properties of atoms which cause the actions. Impenetrability is the capacity possessed by each atom, of excluding every other atom from the space which itself occupies. Every other atom, having collided with the given

atom, will either remain motionless or change the direction of its motion; but it will never enter the space occupied by the first so long as this does not vacate it. This is all that is expressed by the notion of impenetrability: it predicates the possibility or necessity of certain external effects produced in other atoms in the vicinity of the given atom, but says absolutely nothing of the given atom itself. Let us imagine a solitary atom in a complete vacuum. What will its impenetrability mean in such conditions? Apparently, the only property left to it will be its extension. But in what way will this extension differ from the surrounding vacuum? Since the extension of the atom, in so far as this occupies certain space in the universe, stands only for that sphere in space in which it is impenetrable for all other atoms, extension of atoms is merely the limit of their resistance to each other. Similar reasoning applies to all the other properties of atoms: the last basis of their reality proves to be their impenetrability, whilst this latter, in its turn, designates only the phenomena which occur or may occur in atoms as determined by the external actions of other atoms. It thus follows that either the material atom has nothing else except extension and impenetrability, in which case it has no reality of its own; or it is merely a relative symbol of the action of some other atom, this being equally true of all atoms, in which case the material world as a whole will prove to be a world of strange ghosts which somehow affect each other but at the same time have nothing in them and no reality.[1] Or perhaps atoms do have some reality? In that case what must it be?

Impenetrability of atoms is their resistance to each other. Resistance, however, presupposes *impulse*: as regards that which is resisting, the impulse to preserve itself, and as regards that to which resistance is offered, the impulse to act on that other. At the same time impulse presupposes exertion, force. It follows then, that if atoms possess their own inner being this latter must be composed of forces: atoms are, then, living centres of inner forces, or *monads*. But if this is so, atoms in their inner substance are non-extensive; exertions in the form of inner impulse, have no spatial image; extension, as we have seen it, is only the boundary of the atom's resistance, and consequently is only a secondary phenomenon which impulse precedes as its antecedent, and is, therefore, unable to possess the property of extension. A similar argument applies to the pro-

[1] In view of the complex and abstract character of Soloviev's critical considerations, I do not state them here exactly in his own formulæ, though I fully preserve their general meaning.

perty of impenetrability ; impenetrability designates only the external effect of resistance of the given atom on another atom (this latter not being admitted into the other but stopped in its movement). To speak of physical impenetrability as an inner property of any impulses would obviously carry no sense. Yet in extension and impenetrability and in their necessary combination there lies the substance of every thing material. What is then the conclusion ? Matter in its inner substance is immaterial, and all matter is a direct realisation of a spiritual basis, since of impulses and exertions we know nothing, except from the inner experience of our spirit. " True being or independent reality belongs only to immaterial centres of living forces, to monads. All the rest is only their product, the complex result of their interrelations and interactions." [1]

This conclusion presents in itself a complete negation of materialism. Moreover, it equally condemns every form of realism generally ; since all realism rests on the assumption of true being belonging only to external reality, whilst Soloviev attributes true being only to the inner life of monads. Furthermore, realism strives to comprehend nature by means of the empirical method, though trying to correct and supplement the evidence of sensory observation, whereas the inner life of monads, with its exertions and forces, is patently closed for any sensory experience, and the notion of it is only the result of speculative necessity and speculative construction. What is then the position of the realist in the face of this conclusion, if he has no inclination to engage in guesswork as to the inner essence of things ? He must, of course, try to evade it. At the same time, however, he must admit that the notion of matter suggested by materialism, is composed of contradictory characteristics and instead of explaining reality transforms it into a complete absence of everything real. He must also recognise that materialism is practically as far removed from the direct evidence of sensory experience as is the theory of monads. What experience can ever prove that matter, taken by itself, contains nothing but extension and impenetrability ? The materialists reduce all life in the world to movement of atoms. But is it possible to see or touch, or in any other way experience atoms ? Obviously, we have in them not an actual fact but only a speculative supposition. There remains the problem : what can be done in order to retain the basis of realistic experience and yet to safeguard oneself from speculative guessing ? The

[1] *Critique of Abstract Principles*, pp. 245-246.

answer given is this: it is necessary to renounce for ever the illusory hope of fathoming the essence of matter. Experience gives us only phenomena, so we must restrict ourselves to these. Only phenomena and nothing else can be made the subject of true knowledge—such is the fundamental principle of *phenomenal realism.*[1]

But what are phenomena? These, as far as they are observed by us, are *our sensations.* We observe only in those moments when we see, hear, touch, etc.; and, *vice versa,* what is not experienced by our senses is obviously not observed. Thus the statement: nothing exists for us except phenomena, is changed into the other: nothing exists for us except sensations. What we generally call things are simply various possibilities of our having under certain conditions certain series of sensations in certain combinations. The thought of such possibilities arises in our mind owing to manifold associations established amongst the data of past experience. Under the notion of "things" we conceive of nothing else but these possibilities for us of receiving sensations. Such is the doctrine of one of the most consistent representatives of phenomenalism—John Stuart Mill. *Whose* sensations, however, are actually meant here? It must be perfectly clear that every one of us knows only his own sensations. Consequently, only *my* sensations and nothing else exist for me. All things are only possibilities of *my* sensations, and this applies not only to the inanimate objects of the outside world, but with equal force to all living beings outside me and to all my friends. The people around me are also mere possibilities for me of experiencing this or that sensation. But what does it mean: *my* sensations? What is my Ego? Is it not a fact that I know of myself only from the states of my consciousness? And is not *Ego* only my representation, *i.e.,* one of the phenomena of my psychic life? It thus follows that I must regard even myself merely as a state of my consciousness. Of my *Ego* as a substantive bearer of the phenomena of consciousness I have as little knowledge as of the substance of matter.

Thus, if my knowledge must be limited by experience and has no right to pass beyond its boundaries, I am compelled to admit that "what actually exists are only the phenomena of consciousness, and not of *my* consciousness, since I, as I, do not exist, but of consciousness in general, independently of a conscious being or a real subject of cognition".[2] Reality resides either in phenomena as such or in states of conscious-

[1] *Critique of Abstract Principles,* p. 250. [2] *Ibid.,* p. 303.

ness as such. In this lies the final word of phenomenal realism, but this also contains the judgment which it passes upon itself. A phenomenon or state by itself is, obviously, a *contradictio in adjecto*. What distinguishes phenomenon from substance is just the fact that the first, as contrasted with the second, exists not by itself but only for something else.[1] The same may be said of representations and states. The world consisting of sensations in which nobody perceives anything, of representations by nobody and of nothing represented, of states by nobody experienced—such a world is a meaningless fiction, formed of notions, logically elusive and manifestly contradictory. On the other hand, this point of view is a complete refutation of all knowledge: if all reality is reduced to what we directly experience, no universal knowledge, obligatory for all, can exist. Nor are there even separate minds, as all is contained in my personal consciousness. And at the last resort not even *my* consciousness is left. All without remainder is dissolved into nullity.

Soloviev's criticism of the basic principles of rationalism in the various forms of its historic development is equally penetrating and exhaustive. The scope of this paper does not permit of stating it fully, so I have to content myself with sketching its general outlines. The basic principle of all rationalism is the assertion of complete equivalence between being and thought, of their inner identity. Otherwise it would be impossible to justify the claims of our reason to obtain the truth of things by a purely speculative method, based on abstraction from every given reality. And these claims form the very essence of rationalism. But this supposition of complete correlation between being and thought in its consistent development inevitably leads to the recognition of logical notions of things as all their essence and as the only basis of their reality. In this manner, *rationalism* is changed into *panlogism*. This point of view has found its grandest expression in philosophy in the system of Hegel. For Hegel, pure logical idea, pure notion is the only absolute which realises itself both in the cosmic life and in the vagaries of human history. But marked with genius as was Hegel's attempt to explain all that exists as a dialectic self-development of a pure idea absolutely abstract and presupposing nothing preceding it, it was inevitably doomed to failure in view of the essential impossibility of the task. From the abstract the logical sequence can be only to the abstract; but it appears utterly impossible to explain why an entirely ab-

[1] *Critique of Abstract Principles*, p. 303.

stract idea, by virtue of its purely logical nature, must transform into the material reality of the physical world or the inner reality of the self-conscious human spirit. Such passage is inconceivable, and therefore is *illogical*. There is no passage from the abstract to the real, and this means that pure abstract idea cannot be an absolute basis of reality. On the other hand, the very notion of such pure absolute idea contains in itself a contradiction: it is an idea in which nobody thinks of anything, as it precedes both cognitive subject, and that which is cognised. In this respect it presents a complete analogy to the pure phenomena and pure sensations of realism. The only difference between empirical realism and panlogism lies in that the first dresses this inwardly contradictory assumption of the states of spirit, torn away from spirit itself, in the sensationalistic formulæ, whilst the second does so in the rationalistic ones.

In the deep conviction of Soloviev the truth therefore lies neither in realism, nor in rationalism. It must be looked for between these two extreme standpoints. Cognition must needs refer to some reality independent of itself—it must have an object or else it remains utterly hollow. But this independent reality cannot be limited to the material characteristics, as the realists would have it; it must have a spiritual or ideal nature. On the other hand, it must be thought of as having an inner variety of forms, capable of explaining the diverse character of our experience; at the same time, it must manifest an inner unity without which the unity of the world we perceive would remain incomprehensible.

Having these general conditions in mind, how are we to conceive of the absolute principle of things? As an absolute principle, *i.e.*, one which does not presuppose anything preceding it and does not depend on anything else, it must be *one*, since many would limit and condition each other. Yet it must at the same time be the principle of all plurality and diversity, since in it rests the basis and binding force of the world. In itself it is *one*, but it contains all the might and power of *all*. In this manner the principle of *all-unity* which underlies the whole of Soloviev's system is established. The absolute, God, is not an abstract, but a living unity: it is not negative but positive. A negative unity, *i.e.*, one entirely excluding from itself all plurality, would represent a mere absence of every variety of properties and relations; it would mean a complete negation of everything we regard as reality and life; it would be in every way identical with nullity. On the contrary a positive unity presupposes a con-

crete and active unification of greatly varying contents: it occurs there where we have a vitally unifying and asserting power of diverse manifestations. Such is the unity of God. There must, however, be distinguished in him the one creative might of all, and this *all* as a potentiality ever present in him of his possible actions, of the manifold manifestations of his creative activity. This *all* must be actually given in him, since the creative power of God must manifest itself to itself as a creative power. At the same time this *all*, as combination of many forms of Divine activity, correlative to each other, appears as a conditioned reality both by its inner composition and by its subservient position before the one creative power of God. It thus represents in God what as it were is not Divine. *All* in Deity is its *Other*. All is the world in as much as it is contained in God, inasmuch as it eternally faces God as the ideal image of his creation, since in God and for God all is eternal. Soloviev designates this *all* by the biblical name of God's Wisdom, Sophia. Its presence in God makes him one creative Reason: without it God would not have an object of thought and God cannot be without his reason.

This relation of God to the world which has not yet evolved from him but is already given in him, supplies Soloviev with the basis for his conception of Trinity which in contrast to the views generally held by the theologians, he regards as a provable speculative truth. Three states must always be present in God: (1) By a free act of his will he posits in himself an eternal universe. (2) He contemplates it as something in him distinct from himself. (3) He receives it into his unity as an inwardly indissoluble element of his being and thereby makes it greater than a mere idea or object of contemplation, filling it, as it were, with inner life. These three states exclude each other: inasmuch as God creates an eternal world he does not yet contemplate it as something given in him and at the same time distinct from him. And inasmuch as he only contemplates it he does not yet enter with it into a communion of one absolute life. So these states cannot at one and the same time belong to one and the same subject. Nevertheless they are given in God simultaneously: God cannot be God without uniting in himself all the three; besides no states can appear in God in a successive order as different states in time, as God in all his being is beyond time and in him everything is eternal. How is it possible then to conceive of states which are mutually exclusive, being in one, eternal Deity? This is only possible if we regard the one creative life of Deity, in all its

fundamental states and relations, as realising itself not in one but in three persons amongst which it is divided. The one Deity is primordially given in three hypostases and cannot be given in any other way. As the might by an irrevocable act of will giving birth to the eternal ideal world, it is God-Father. As the reason contemplating this world, it is God-Word (Logos). And, lastly, as the power imparting to this ideal world its eternal inner life, it is Holy Spirit. On the other hand, this eternal world, in its relation to the Divine might which realises it, is in its turn revealed in three aspects: in relation to the Divine Will which posits it, it is *good;* in relation to the Reason which contemplates it, it is *truth;* and in relation to the Spirit which enlivens it, it is *beauty*. Thus, good, truth, and beauty, these highest ideals of human activity, are eternally given in Deity as a primordial reality.[1] As we have already been partly able to see in the basic thought of Soloviev this eternal ideal world, though given in God and making with him one whole, possesses, nevertheless, some independence and has a separate life of its own; Deity obtains in it a real expression of the fullness of its creative might. In this sense it is a living image of God. But as such it manifests itself not in its separate parts but only in all of them combined together: in order to be such an image it must be a living indivisible whole, a perfect organism possessed of one common life for all the elements that go to make it up and of one centre of such life. For this reason, in relation to the eternal world, two unities must be distinguished in God: the primary unity of God himself, as that of the creative foundation of the eternal world, and the secondary, God-originated inner unity of this eternal world, as that of the image of God. The inner centre of this image of God, the vital source of eternal forces innate in the ideal cosmos, is *the soul of the world*. As I mentioned before, this is an extremely important notion in Soloviev's system: owing to this notion, in spite of his strictly Christian and religious outlook he comes within close range of pantheism. A convinced theist in the conception of the absolute principle of things taken in itself, he understands the world's process pantheistically.

What was then, from the point of view of Soloviev, the process by which the material world in space and time was created? In its most general outlines his answer is this: The basic property of God is his *self-definition*, as all the contents of his life are given by himself and are independent

[1] *Lectures on God-Mankind.*

of anything else—nothing outside God actually being in existence; next comes his absolute freedom which is bound up with his self-definition.

The world's soul is a living image of Deity, the Divine essence, as it were, repeated in an eternal ideal creation. Freedom, self-definition, must therefore be as much its own fundamental properties as they are God's, since without them it would fail to be an image of God. If it is free, however, its existence within God, as an indissoluble element of Divine life, depends not only on the will of God, but also on its own free self-definition. It *can* dwell in unity with God, but it *can* also dwell outside this unity making itself the centre and purpose of its being and breaking off thereby from the Divine life. No external power impels it to follow the one or the other course. Its final decision depends entirely on itself, on its pure freedom of action. How did then the present world come to be? The world's soul of its own will effected this act of self-definition, which was an act of secession from the Divine source. Itself, not God, was made the centre of its being—as it resolved to be everything for itself. By this, however, it violated the very meaning of its existence, as all the purpose and foundation of the latter lay in the fact of its having been God's image, issued from God and inwardly bound up with him. This made its falling off from God *eo ipso* its own inner downfall. And with the latter the inner world of which it was the centre, of necessity broke to pieces. For every will in the world was in the last analysis its own will, and so its egotistic will, directed towards itself, transformed itself into egoistic wills of all beings. The world broke up, deprived of the ideal bond which had kept it together, and sank into a state of lacerating war. The reason in the world's soul died out having had no source and no material as the tie which united it to the Divine reason had been torn, and thus the ideal tie which bound together the beings for which the world's soul was the centre, was also rent. There remained in the soul of the world only a suppressed longing after a perfect fullness of being and its unity which it tried to find, but failed.

In this characterisation of the inner state of the world's soul one can easily detect the influence of Schopenhauer's teaching of the blind will as the basis of the cosmic process. The world's soul would have also for ever remained far from the goal of harmonious life, were it not for the help which it received from the ideal action of the Divine reason. God did not lose his reason because his living image — the soul of the world— put itself in a wrong and mistaken position: no

changes are possible for God, as he from eternity contemplates in himself all the possible manifestations of his creative might, as he contemplates in the world's soul not only what it became but also what it must be. For this reason only God is able to evoke before the world's soul the ideal image of the process which must raise it from its downfall and regain for it the ideal fullness of life.

It is God's wish to see such a purification and rebirth of the world, as the essence of the all-one Deity is love.[1] Here again the analogy must be noted which exists between these ideas of Soloviev and the theory of Hartmann who regarded the fundamental condition of the world's process as lying in the interaction of will and thought. The general notion of the creation of the world as the result of a secession of the Divine potency from the Divine unity was doubtless suggested to Soloviev by Schelling. The development of this thought by the two thinkers, however, differs in details so greatly that no question of mere plagiarism can arise. Still less ground would there be for such a charge with regard to Schopenhauer and Hartmann : so immense was the difference in the very manner in which the fundamental principles were treated by Soloviev and these two philosophers.

We thus see that according to Soloviev the cosmic process presents a picture of the gradual conquest and permeation of the world's soul as the elemental basis of cosmic life, by the unifying and vivifying power of the Divine Logos. This process is gradual and extremely difficult. The Divine reason can impart to the world's soul only so much as it is able to hold, and it must be remembered that in the beginning of the cosmic process the state of the world's soul is abnormal, wrong and evil—a state of chaotic disruption, of egotistic self-assertion on the part of all beings, of their complete exclusiveness, their absolute impenetrability for each other. The material world created owing to the fall of the world's soul presents a mutilated, an inverted, as it were, image of the true ideal world : the inner spiritual unity of that eternal world is expressed in the terms of the material world by the purely external unity of *space* filled with atoms impenetrable for each other ; its invariably present eternity is expressed in our world by the infinite stream of *time* in which every new coming moment completely excludes all the preceding ones and reduces them to absolute nil (the present came to be only when the past ceased to exist) ; the absolute freedom and pure self-definition of the spiritual world are expressed

[1] *Lectures on God-Mankind*, pp. 175-181.

in the material world by the iron law of *mechanical causality* according to which no agent can act upon itself, but its every action is inevitably determined by the infinite sequence of causes and material conditions which are not dependent on the agent itself. It was on such a material as this that the spiritualising and vivifying power of Logos had to act in order to make itself felt.[1]

Soloviev's theory of the cosmic process sees three essential phases in the permeation of the elemental chaos by the unifying power of God. These are: (1) *the mechanical unity*, produced by the cosmic gravitation which creates the material body of the universe. The latter's parts, remaining external to each other, are bound together by an unseverable chain and are irresistibly drawn to each other. In this one may see the primary expression of cosmic altruism. The soul of the world obtains its first realisation as a universal unity and glories in its first union with the Divine wisdom.

(2) The second phase is the *dynamic unity*. In this stage the world's soul realises itself in nature in the form of imponderable thin and rarefied matter, the ether, so called. This idealised matter provides a pliant tool for the fashioning actions of the creative Reason. Ether envelops, as if with a net, all the elements of the cosmic body and sets them in infinitely varying relations to each other. The activity of either finds its expression in the phenomena of light, electricity, and other imponderable forces which all represent mere modifications and transformations of one and the same agent. The basic character of this agent is its pure altruism, its unlimited expansion, its extreme impressionability to all external actions.

(3) The third phase is the *organic unity*, which for the first time gives a true image of the all-unity in the material world by means of the ideal union, coherence and all-pervading reasonableness of the parts of a living organism. The organic matter and the imponderable ethereal fluid provide the basis and the medium which enable the power of life to develop its diverse creations. In plants life manifests itself objectively in organic forms; in animals it is also felt; in man it is already understood in its absolute source.[2]

In this theory of three forms of cosmic unity one can doubtless trace the influence on Soloviev of the conceptions of the philosophy of nature developed by the German idealists.

In the creation of man the natural process attains its

[1] *La Russie et l'église universelle*, pp. 231-237. [2] *Ibid.*, pp. 252-254.

supreme aim and its true centre, from which the purification of all that is evil in nature is to proceed. In mankind the perceptive soul of the world becomes a reasoning soul and, having assimilated the cognisable world, embraces every being in an ideal unity. Through man the earth has risen to heaven. It is also through him and his actions that heaven has to descend to the earth and fill it. Through man all the world outside God must become a single living body—an all-complete embodiment of Divine Wisdom. This central position of man is due to the fact that in him for the first time the world's soul finally and inwardly opens itself to the Divine reason and enters with it into a living and intimate unity. The meaning of human existence finds its realisation, firstly, in the ideal inner union of the material potency with Divine action and, secondly, in a free realisation of this union in the all-completeness of the world that is outside God. Thus, the purpose of man lies in imparting sacredness and divinity to what had seceded from God. Man is capable of the deification of nature only because he is inwardly deified himself. For this reason, mankind as the unifying and consecrating power of the natural world, may be called the second absolute. It must be borne in mind, however, that in man the material joins in union with the Divine only under the guidance of its free will. Owing to his dual nature, resulting from the inner interaction between the world's soul and the Divine Logos, man alone is able to retain freedom, and remain independent of God while ever coming to a closer unity with him through a series of conscious efforts and arbitrarily chosen actions. Hence, mankind is only a becoming absolute:[1] mankind is developing and gradually approaching to the realisation of its ideal purpose. Only as a distant ideal of the universal history can we picture to ourselves a complete permeation of the elemental forces of nature in mankind by Divine Logos. Nevertheless in one single instance this complete unity already manifested itself in the world. This occurred in the singular individuality of Jesus Christ. Christ alone is a true God-man, a man directly and mutually united with God.[2] Thereby he becomes the centre and the inner motive power not only in the universal history of mankind but in the cosmic process as well. Christ represents that point in the life of the world from which the universal purification is taking its source: only through him, through his ever-present action on humanity by means of the Church which is his mystic body, the final aim of the

[1] *Critique of Abstract Principles*, Chapter xliv.
[2] *La Russie et l'église universelle*, pp. 256-260.

all-human development can possibly be achieved: the natural mankind will become God-mankind. "It can be easily understood," says Soloviev, "why he made his first appearance *in the midst* of history and not at the end of it. As the object of the world's process is the revelation of the Kingdom of God or of the perfect moral order realised by the new mankind (*which latter is spiritually growing out of God-man*), it is clear that this universal revelation must be preceded by an individual revelation of God-man." [1] Such a revelation of God's Kingdom is attained, not by the individual efforts of men, not by their personal godliness, but by means of a perfect social organisation which would realise the highest truth upon earth not only for private individuals but for the whole of mankind. "The spirit of God in mankind, or the Kingdom of God, for its complete revelation requires a most perfect social organisation which is actually being evolved in the world's history." [2] "The historical process is a long and difficult passage from beast-mankind to God-mankind." [3] When this passage is accomplished the whole world will entirely change—freed for ever from the material dissensions, the external inertia, and the mutual impenetrability of beings. "The appearance of the Kingdom of God does not destroy the lower types of being but installs them in their rightful places; not, however, as independent spheres of being, but as psycho-physical organs of the *collective* universe, which are indissolubly bound up into one whole by an absolute inner solidarity and interaction. This explains why the Kingdom of God is equivalent to the reality of moral order or, what is the same, to the universal resurrection and recomposition of all." [4] It will thus be seen that the painfulness of the world's process and its very breaking out are wholly justified by its end: the infinite all-unity of the Divine life attains to a fuller and more concrete incarnation in the world, which seceded from it and then came back of its own free will, than it would attain in the world blended with it from eternity and for ever, as was the eternal spiritual world before the fall of the world's soul. These considerations account for the fact that in the latest statements made by Soloviev his theory of the creation of the world received a somewhat altered form: the blind chaotic striving after self-affirmation, characteristic of the inner state of the world's soul in the beginning of the cosmic process, is now regarded as much the act of its own free will as the effect of the Divine approving judgment; in the eternal plan of the Divine world-

[1] *Justification of Good*, pp. 252-253.
[2] *Ibid.*, p. 224.
[3] *Ibid.*, p. 226.
[4] *Ibid.*, pp. 254-249.

making it was foreseen as a necessary condition for a free deification of matter.

In entire agreement with these general views, beliefs and hopes were the moral ideals which inspired Soloviev. "*Have God in thyself*"—such is the rule of action which enables us to manifest our inner kinship with God and our capacity as well as determination to possess a free perfection. From this maxim follows the other: "*Treat everything in the manner of God*". "He who has God in himself treats everything as the thought of God sees it." In its final form the absolute principle of morals receives the following expression: "In entire inner agreement with the Divine will and recognising in every one else an absolute importance or value, insomuch as each has the image of God, strive to take as active a part as you can in the work of your own and general perfection for the sake of the final revelation of God's kingdom in the world".[1] The human morality has its basis in three spontaneous impulses of the human nature: the feeling of shame, the feeling of pity and the feeling of reverence. In the feeling of shame there finds its expression the ethical attitude of man to what is inferior to him. It contains a powerful stimulus to a spiritual preservation and self-control, to an inner struggle against every enslavement of our moral personality by the sensuous animal instincts. The feeling of pity determines the moral attitude of man towards other human beings: "Pity is the root of the individual soul from which the moral social relations grow". From it spring justice, mercy and love which supply the principle of true social relations. Lastly, the feeling of reverence expresses the due attitude of man to the highest power and is the source of religion in the individual consciousness. When these three basic moral impulses are harmoniously united in a man and become the masters of his will they create in him the state of mind which makes him a free and worthy worker in the sublime moral order of the universe.[2]

The social ideals held by Soloviev were merely an application to life of his general moral principles. The motto of "freedom, equality and brotherhood" which has been so trite and hackneyed in the mouths of the majority and has become an empty and often cynically ridiculed phrase, this motto for Soloviev was vastly more than mere words. For him it was the most elementary and at the same time the most indispensable foundation of the Christian human life, whose imperativeness cannot be shaken by any considerations. He

[1] *Justification of Good*, pp. 229-230. [2] *Ibid.*, pp. 51-69.

did not regard these notions as mere ideal measures for appraising the actions and feelings of any single man in his private relations to other men. The most essential and most characteristic feature of Soloviev's ethics lies in the fact that for him the law of love, the claims of all human justice, the recognition of the infinite dignity of every human personality are the absolutely imperative criteria of all social measures, all politics, all relations amongst nations. In the precepts of Christian morality we have the absolutely real law of the only true life on earth—are we then to remain for ever in the illusory realm of unrealised dreams, whilst human society lives and develops as if this law has never been found? Man redeemed and purified by Christ is in the first place a *free* man. Are then the external relations in the Christian world to remain opposed to this gift of God? The Christian God is not a hidden God, and he revealed himself in the flesh, doubtless not with the object of lending further support to the opposition between the seen and the unseen. It is impossible to regard as normal that man liberated by living God should become a blind tool of dead objects—a slave of machinery. The Church of Christ imparts a kind of Messianic dignity to every Christian whoever he may be. In this all men are equal and in this there lies the indelible expression of the infinite value of every man: all in their inner essence are equally valuable and each one in the eyes of the rest should have an infinite value. Shall then Christian society raise the accidental and passing fact of inequality by birth or advantage to the state of an absolute principle? True and positive equality (*i.e.*, one which does not exclude a diversity of social functions) like true freedom, reveals and realises itself in solidarity and brotherhood. Christ spread this brotherhood over all the nations. And if the mystic bond of the one Church is true and real, we, who participate in it, all become brothers without distinction of race or nationality. Thus, when in the name of so-called national interests, we kill each other, we are actually and not metaphorically only engaged in fratricide.[1]

Whether we agree or disagree with Soloviev's views on this matter, we must at any rate admit that his ideas were marked with one single peculiarity: he was absolutely unable to understand or to tolerate any double-dealing in morals. He was staunchly convinced that what was just for one human being must be equally just wherever any human actions take place. Hence his broad and humanitarian

[1] *La Russie et l'église universelle*, pp. 325-329.

liberalism which distinguished his verily inspired work as a public writer. Hence his valiant defence of the freedom of speech and thought. Hence, lastly, his sincere and fervent hostility towards narrow nationalism in politics.

III.

I have stated the system of Soloviev only in its most general and dim outlines, not even his system, to be more accurate, but only its logical skeleton, so to speak—its guiding thought. I think, however, that even from this statement one is able to see the broad and original position which forms the basis of Soloviev's philosophic conceptions taken as a whole. The feature about him that appears most striking is the difficulty of classing him in any set category, of labelling him with any accepted name. Soloviev is a theist in his ideas of the primary basis of things, and he is at the same time a pantheist in the conception of the world's process as a becoming absolute. He is a declared monist in the comprehension of the inner essence of things, and he is equally an obvious dualist in his ideas of the fundamental powers controlling the life of the world and mankind. He is a convinced optimist in the general appreciation of the meaning of the human and natural existence; and he is doubtless a pessimist in appraising the actual conditions of universal and human development. He is a representative of the philosophy of pure freedom, inasmuch as he explains all being from the absolute self-definition of God whom nothing impels to act in any prescribed manner; and he is a strict determinist inasmuch as he regards all the cosmic and historical process as predetermined in the inevitable inter-relations of the fundamental factors of reality which called it forth and direct it. Soloviev is a mystic in his teaching of the intuitive character of our cognition of the Divine essence, and he is a rationalist in the manner he understands the speculative problems of philosophy; he is also an empiricist inasmuch as for him all cognition presupposes an actual relationship between the cognising subject and the independent object of cognition, *i.e.*, it presupposes experience in the broad sense of the word. Soloviev is an idealist and spiritualist in his views of the inner essence of things, and at the same time he may be called a realist in so far as he considers space, time and causality in nature not as mere illusions of our consciousness but as possessing a certain independent reality, though relative to ourselves. All these apparently irreconcilable points of view are not bound together in his system in any

external fashion. On the contrary, they clearly presuppose each other and make up an indissoluble organic whole, the union of which was not brought about by a set endeavour, but grew up as a natural consequence of the basic premises of Soloviev's philosophy.

With a mind free and independent before everything else, Soloviev knew no imposed objects for his thought, and his philosophy is entirely free from any bias or partisan spirit. He was never oppressed by the problems which worry so much the philosophers of the idealistic frame of mind, such, for instance, as the necessity of recognising the physical law of conservation of energy as a fundamental law of all being, and of justifying at the same time the independence of spiritual power in the world; or as the problem of admitting at all costs that the mechanical, nowhere interrupted connexion of the movements of material atoms is the only type of causality in the world, and yet of retaining the faith in the deep ideal meaning of life, etc. At the same time Soloviev held the natural sciences in great esteem and was well versed in many of them. Of some of the ideas borrowed from them he made a broad philosophic application; as for instance, of the ideas of evolution, organism, and of organic development. He, however, understood the fundamental difference distinguishing the objects of natural sciences from those of philosophy and the divergence inevitably consequent upon this in the methods of solving those problems: he clearly saw that these two spheres of spirit must follow each its own way. For this very reason he was a creative mind in philosophy, while his fellow-workers in the profession were merely obedient interpreters of somebody else's thoughts.

It is enough to compare Soloviev with one of the most popular and daring modern metaphysicians, Edward Hartmann, to recognise that Soloviev is head and shoulders above his contemporaries. Hartmann was doubtless a man of brilliant intellect and varied learning. And yet his forced and insincere pessimism, his utterly unintelligible and groundless dualism of blind will and thought, which nevertheless in friendly concordance by their mutual interactions create the united life of the world, his impotent fluctuations between spiritualism and materialism in recognising, on the one hand, the inner spirituality of the world's essence, and, on the other hand, its unconscious elemental nature, lastly, his strange pretension to give those metaphysical fancies the air of empirical truth—all these features of Hartmann's philosophical system give it more the appearance of a puerile parody on the ideas of Schelling, Schopenhauer and the other

great representatives of the brilliant period of German philosophy in the nineteenth century, than show it as a serious statement of sincere and profound thought. When reading Hartmann one cannot help doubting the author's serious conviction of the truth of his writings. It would be difficult to imagine anybody ever gaining such an impression from Soloviev's works. One may agree or disagree with him, but hardly anyone would venture to deny to his philosophy immense depth of feeling, inner unity that is full of poetic sentiment, and particularly, intimate and genuine sincerity.

I am quite conscious of the fact that many diverse judgments of Soloviev's philosophy will be passed by the critics —all according to the way they themselves see things. There will be many who will say that Soloviev's standpoint is too reactionary, and that the basis of his intellectual outlook has been utterly condemned by history. It seems to me, however, that even these critics will not dispute Soloviev's indubitable services to the history of philosophic thought. Let it be admitted for the moment that the school of thought to which he adhered in his philosophic activity has essentially been outgrown and left behind. The fact that it still has many followers and exercises great practical influence still remains. Whatever this method of thought may be, we must judge its representatives by the power of their genius, by their originality and depth, by the consistency and coherency of their opinions. Truth evolves gradually from collision of the most contradictory opinions and suppositions. For this reason, the more fully and completely even a one-sided view of things is expressed, the better it is for their true understanding: every fallacy, to be completely defeated, must speak itself out to its last word.

It may be asked, however, whether it is true that the spiritual conception of the world which was preached and defended by Soloviev has been entirely condemned by history; and whether it is true that the standpoint of empirical realism based mainly on raising the particular and conditional truths of physics to the position of absolute axioms, has for ever superseded the old spiritual view of life. To say that this is true would of course be giving a premature and hardly historically sound answer. Indeed, the system of thought for which Soloviev fought has survived many a thousand years, whilst the system of new ideas which has broken away from the old system in the form under which we know it now, can hardly boast of even a hundred years of existence. Is not this time too short for testing and measuring its historical durability? Again, is it suggested that Soloviev stood up

for his ideas of the absolute spirit as the foundation of all being, and of the spiritual essence of all things, simply because of his *naïveté* and his ignorance of the objections that could be raised against him? Surely this can scarcely be maintained by anybody. Soloviev lived through materialism and positivism with such a depth of feeling, with such enthusiasm and sincere devotion, that but for the change in his mental outlook mentioned in the beginning of this paper he would, no doubt, have become one of the most brilliant and most profound apostles of the new philosophical movement. Can the change then have been merely a strange caprice of his mind? Did he close his eyes to truth clear as the sunlight, and abandon himself to manifest falsehood? A fair-minded reader of his works will agree that it was not so. Soloviev was relentlessly strong and equally clear in his critiques. Perhaps no more striking and persuasive pages could be found in his philosophic works than those in which he subjects to criticism the materialist and positivist theories. A careful student of these pages will see that Soloviev had quite firm and reasonable grounds for maintaining that materialism is actually only a medley infringing all the laws of logic, which piles in one heap untenable speculative suppositions and empirical generalisations forced beyond their proper limitations, whilst, on the other hand, pure empiricism taken as it is and followed to its final conclusions, leads to nothing but a complete denial of all knowledge. A careful reader of Soloviev's works will also see that no bans can be imposed on human thought forbidding it to ponder over what it finds of interest to itself. He will then clearly understand that the path chosen by Soloviev was the only one open to him.

It may easily be admitted that the system of Soloviev in some of its particular points contained much that reflected only subjective views, beliefs and hypotheses. It may even be admitted that this system was never worked out in all its details. This, however, does not minimise the immortal service which Soloviev rendered to humanity by pointing out with all possible clearness the only escape from the depressing contradictions of the philosophical movements of his time. Let it be granted that his system as a whole did not give the final solutions of the questions of life and knowledge —is there anyone capable of creating such a system?—but he indicated the direction in which the positive truth should be sought, and gave high and inspiring examples of the self-denying quest for its attainment. In an epoch of lassitude and of spiritless self-distrust through which philosophical thought was passing, Soloviev fearlessly raised the standard

of independent philosophy and unswervingly held it flying to the last days of his life. In the epoch when the mind of the greater majority of educated people, harassed by the contradictions in life and thought, helplessly rushed after every will-of-the-wisp, incessantly embracing new ideals as soon as the old ones ceased to satisfy it, Soloviev alone with the unbridled energy of his vigorous mind called all and sundry to the *true* light. Alas, that so few should have answered his call!

II.—KANT'S PHENOMENALISM IN ITS RELATION TO SUBSEQUENT METAPHYSICS.

By Archibald A. Bowman.

In a previous article we examined Kant's denial of metaphysics, with a view to determining whether this must be taken as definitive, or may be regarded as admitting, under certain qualifications, a body of positive doctrine on ultimate questions. Considered in itself Kant's statement is sufficiently categorical. Metaphysics is impossible. But as soon as we try to relate the views of subsequent thinkers to the position thus formulated, a curious anomaly makes its appearance. Generally speaking post-Kantian thought, largely unsympathetic in its attitude to metaphysics, could hardly be said to dismiss the matter with such a direct and unqualified negation as that of Kant. From this point of view therefore it might seem as if the tendency since Kant's day had been on the whole in the direction of a tolerant reconsideration of the question. This however represents only one aspect of the case. It is no less true that from the average modern standpoint the Critical Philosophy, so far from seeming to negate metaphysics, is apt to appear as itself extravagantly metaphysical.

The reason for this is that while Kant excluded the unconditional from the content of the knowable, as defined in the *Critique of Pure Reason*, he did so by a method which implied, not the negation, but the emphatic assertion, of the *unconditionally valid*. The extent to which Kant's use of *a priori* principles has given his thinking the air of fateful dogmatism is evident enough if we view his ethical absolutism in the light of subsequent naturalism. To Nietzsche, for example, it seemed that Kant, like all European philosophers since Plato, was overruled in his search for truth by a fanatical regard for "majestic moral structures". The unassailability of the moral order is a dogma which he maintains in defiance of the evidence. "For," says Nietzsche," as regards nature and history, and the utter immorality of nature and history, Kant was a pessimist, as every true German of old;

he believed in morals, not because they are verified by nature and history, but in spite of their being constantly contradicted by nature and history." [1]

The substance of Nietzsche's complaint is that Kant subordinates the rational interpretation of experience and history to ethical prejudice. In attempting to render morality "unassailable," by rendering it "unintelligible" to reason, he has contributed in his own way to the "general animosity of the Germans against enlightenment".[2] But it is by no means only in this direction that Kant has seemed to go wrong. On the contrary, to writers of another temper the defect of his thinking is just the opposite—*viz.* its extravagant intellectualism, infecting his ethics, through his epistemology, with a pseudo-scientific exactitude and simplification. His failure to do justice to the original and infinitely complex *de facto* character of the moral life is due not to a moral but to a logical fanaticism. This view, which is maintained by the French sociological school of moralists,[3] particularly by M. Belot, has been stated with remarkable persuasiveness by Prof. Georg Simmel in his *Vorlesungen über Kant;* and nothing could better serve our present purpose of determining the ultimate purport of Kant's total thought in relation to metaphysics, than an analysis of Simmel's argument.

In his Berlin lectures, published in 1904, Prof. Simmel offers a presentation opposed to that which accords what he considers a spurious primacy to the ethical interest.

This latter view is based on the assumption that Kant handles morality from within, *i.e.* from the standpoint of the moral agent, beset on the one hand by the natural desires and on the other by the dictates of the Categorical Imperative, and concerned only with the practical solution to what is essentially a practical problem. The centre of Kant's ethical teaching is found in the actuality of the moral conflict, in relation to which his formal rigorism appears under the aspect of asceticism.

The seriousness of this assumption may be measured by the consequences which it entails, and particularly by the readiness sometimes shown to take for granted that Kant is answered by the ordinary refutation of ascetic theory. To this tendency Prof. Simmel furnishes a valuable counterpoise in the skilful reorientation by which he places the centre of

[1] Morgenröte, Einleitung. tr. Johanna Volz. [2] *Ibid.*, pp. 191-192.

[3] For an excellent critical account of their views on this point among others *vide* J. Lottin: *Le Problème des Fins en Morale* in the Annales de l'Institut supérieur de Philosophie of the University of Louvain, 1914. Especially pp. 316-317.

Kant's ethical teaching, as of his teaching in general, not in the moral interest as such but in the intellectual. "The uncompromising rigour of Kant's ethics," he writes, "has its origin in his logical fanaticism, which would force upon life as a whole the form of mathematical exactitude"; and he goes on to attribute "this intolerance of the ethical imperative" to "a spiritual propensity directed not towards the practical but towards the logically comprehensible".[1]

In its most general character this representation is of course one which has been widely accepted in Germany and elsewhere. What is peculiar to Simmel's account is the fatal nature of the effects which, following certain well-known tendencies in contemporary thinking, he attributes to the intellectualistic attitude of Kant.

These effects, as they appear to Simmel, may be summed up in one or two broad features. In the first place "the boasted primacy of the practical reason" must go.[2] The centre of Kant's system being shifted from morality as such, the latter retains only that amount of interest which its connexion with scientific method allows it.

This according to Simmel results in an unexampled ethical rigorism. "The greatest moralists," he says, "who found the springs of their teaching in the exclusive estimation of the ethical, were not for an instant to be compared to Kant in point of rigour—neither Buddha nor Jesus, neither Marcus Aurelius nor St. Francis."

The comparison is not a happy one; and it suggests that the writer is himself confusing the scientific rigorism of Kant with something intrinsically different—no less, in fact, than the view attributed to him by those who are charged with placing the centre of his system in the immediacy of the moral interest. An excess of rigour in the application of scientific or logical principles to the ethical aspect of life is not obviously or necessarily the same thing as a rigoristic content in the system of ethics involved. And the converse is strictly true. It would be difficult to find an extremer rigorism than in the moral and religious teaching of Tolstoy; yet this coincides with a view which negates the very idea of science.

At a later point Simmel states his position unambiguously. He shows that for Kant there is no necessary intrinsic opposition between pleasure and the morally good. The prominence given to the conflict with pleasure is of purely theoretical significance. Its value lies in the fact that this

[1] *Vorlesungen über Kant*, p. 6. [2] *Ibid.*, p. 28. *Cf.* p. 130.

situation more than any other furnishes the conditions which render the specifically moral attitude clearly definable to the intellect. Ascetic morality on account of its passivity is alien to Kant's point of view.[1]

A further matter which calls for attention is the alleged undue simplification of the ethical problem. "It is in complete agreement with this," Simmel continues, "that Kant . . . takes his problem only from the most everyday and, so to speak, grossest eventualities of the moral life. That which in the facts of morality is accessible to the most general concepts he treats with unprecedented greatness and acuteness. But all the deeper and finer questions of ethics, the points where conflicts culminate, the complications of feeling, the dark powers in us, with which we so often stand face to face in moral perplexity—of all that he appears ignorant—he who in the observation of man's *intellectual* activity penetrated to the deepest, finest and nicest functions. The want of imagination and the naïveté (Primitivität) in his mode of stating the ethical problem, and the refinement and comprehensiveness in his mode of stating the theoretical, prove that for him the amenability to logical thinking was the sole factor which determined what should enter into his philosophical thought."[2]

There follows a consequence which, unless it is stated with certain very exact modifications, will certainly prove fatal to Kant's account of the moral life—*viz.* that our conduct derives its ethical value from its conformity to the law of non-contradiction.[3] This may of course be in some sense allowed (certain presuppositions being first of all secured). But the point of Simmel's statement is that the intellectual implications of Kant's ethics are of such a nature as to substitute logical for moral values and thus to annul the independence and specific character which distinguish morality.

Weight is given to his contention by the type of examples employed by Kant. The "Primitivität" of a morality based abstractly on theory comes out particularly in this, that the absence of contradiction, in which the essence of morality is found to consist, can be expressed only in a partial, *viz.* a *prohibitive* sense. 'All the examples which Kant gives follow the formula: "Thou shalt not——"; but for the selection of the ethically necessary from the ethically possible, as thus determined, this principle affords not the slightest direction.'[4]

[1] *Vorlesungen über Kant*, p. 111.
[2] *Ibid.*, p. 6. *Cf.* p. 105.
[3] *Ibid.*, pp. 98-99, 101.
[4] *Ibid.*, p. 101.

The exact nature of the defect here indicated is made clear in the pages which follow. A contradiction has meaning only when the reality of a conception is given beforehand. Where we are dealing with mere possibilities the case is different. The law of non-contradiction therefore presupposes a given reality and can be used as a criterion on this assumption alone. Here "the criterion holds good only if the ethically necessary already stands fast on other grounds".[1] Simmel concludes that instead of independently establishing morality, Kant's formula appears as a mere means for the clearing up and arranging of moral values already recognised from a different source—through ethical instinct or otherwise.

The general extension of the ethical criterion, thus narrowly based upon its logical character, to the universe of values involves not too narrow a conception of morality but too wide an application of this conception.[2] The value of personality or of a good soul is not necessarily determined by ethical considerations. In estimating the relation of pleasure to value Kant's method involves a *ὕστερον πρότερον*. Exactly that which from the standpoint of the value of the soul Kant regards as entirely indifferent, that, *viz.*, in which it finds its pleasure, is the point on which everything should be made to turn. And Simmel expresses his objection to the Kantian ethics as based not on the rigour of the moral concept (this cannot be too strictly defined), but on the illegitimate translation into ethical terms of values fundamentally different. In a word, Kant requires of moral action that it shall not only be directed to moral ends in conformity with moral rules but shall find in the form of morality itself the sole content and object of the moral life. Accordingly: "nicht das pflichtmässige Handeln, sondern allein das Handeln aus Pflicht genügt dem sittlichen Anspruch".[3]

This defect, due to Kant's intellectualist point of view, culminates in his logical derivation of the fundamentals of religion from ethical implications, resulting in the failure to recognise religion as "a structure by itself, a growth out of its own root".[4] The derivative position thus accorded to religion results in a fatal disturbance of elements within the content of the religious life itself. Its specific character, what is most peculiar and deepest in it, is lost. Thus duty has to be conceived as terminating in a blessedness infinitely

[1] *Vorlesungen über Kant*, p. 102.
[2] *Ibid.*, p. 112.
[3] *Ibid.*, p. 87.
[4] "Ein einheitliches Gebilde . . . einen Trieb aus eigner Wurzel," p. 130.

remote—the latter being brought in only as a supplement and never as a motive; whereas it is the unique character of religion, rightly understood, to reverse this order, and to substitute for a duty which should logically end in blessedness "an ideal power which makes the attainment of blessedness the duty of man".[1]

Thus Kant sacrifices religion and all that is intrinsic in it to "Moralism"; and the immortality of the soul is reduced in the proof to a mere formal condition, devoid of any specific meaning, and signifying little more than the bare infinitude of time. "It is really only the expression of the truth that an infinite demand may be laid on a finite being."[2]

To sum up, Simmel's indictment of Kant's ethical teaching amounts to the charge that Kant, in his endeavour to explain morality on strict rational principles, has lost all touch with the unique and infinitely complex character of the thing itself. As has been remarked, it is a case of scientific simplification where simplification means falsification. Kant has proved unfaithful to the facts of experience in the moral life. Thus in spite of a superficial appearance of diametrical opposition, we detect a substratum of agreement in the criticisms of Simmel and Nietzsche. To both Kant seems to err through a disregard of what is actually given—in the one case to the prejudice of morality, in the other to its illegitimate exaltation over the plain facts of nature and history. Such a procedure involves the promotion of speculative ideas over actualities, in the sense that the validity of the former is conceived to be entirely independent of the latter; and this is just the feature in virtue of which Kant's thinking, despite the doctrinal negation of metaphysics, appears to the modern mind as metaphysical in the wrong sense of the term.

The change here discernible implies a new estimation of experience which, while rejecting ultra-experiential and unconditional values, tends to invest experience itself with something of the positive and ultimate character of metaphysical reality. Already in Schopenhauer we find an advance in this direction. In continuing to regard metaphysics as based upon principles that cannot be deduced from experience, Kant, it is argued, merely accepts the presuppositions of his dogmatic predecessors. Reinterpreting these in terms of the conditions of human knowledge, he concludes that metaphysics is impossible. In contradistinction to this Schopenhauer maintains that a solution to the problem of

[1] "Ein inheitliches Gebilde . . . einen Trieb aus eigner Wurzel," p. 131.

[2] *Ibid.* p. 133.

existence must come from an understanding of the world itself. At the same time he admits that any such solution, based upon experience, can be only partial; and he ends by defining his position as midway between the "Allwissenheitslehre" of earlier dogmatism and the despair of the Kantian Criticism.[1]

One very obvious characteristic of the new standpoint is a general relaxation in the absolutism with which principles of every sort are applied. The naturalism of Schopenhauer, with its continual profession of adherence to the laws of positive science, is less rigorously positive in its conception than the theory of Kant, which would grant only conditional validity to these laws. This will appear if we consider how Kant's phenomenalism fares in the hands of Schopenhauer. The unique character of this phenomenalism is the way in which it enables Kant to impart to knowledge, which is an individual, subjective function, the significance of the universal and objective. Kant's theory of objectivity, we may say, is the kernel of his phenomenalism, and is what distinguishes the latter from other theories bearing a superficial resemblance to it — the phenomenalism, for example, of Herbert Spencer. It is this that enables Kant to develop an epistemology which, within the limits of the phenomenal, yields a knowledge as universal as its own principles. Between such a phenomenalism, essentially objective, and the subjectivism which was chiefly what Schopenhauer saw in it, there is all the difference that divides a theory of knowledge based on the idea of *validity* and genuinely *epistemological* principles from a mechanical psychologism like that of Locke.[2] Schopenhauer is himself saved from such a position by reverting to a rationalistic postulate in the form of the principle of sufficient reason, which, as the law of causality, he contrives to apply in a naturalistic fashion—the whole

[1] *Kritik der Kantischen Philosophie: Die Welt als Wille und Vorstellung*, vol. i., pp. 505-507 (Frauenstädt's edition).

[2] Schopenhauer's understanding of the matter is well indicated by his habit of placing Locke and Kant together as exponents of the subjective theory of knowledge—the difference between the two being a greater centrality in Kant's view. For Locke knowledge is a function of the senses, for Kant a function of the brain. *Welt als Wille*, etc., vol. i., pp. 494-495; vol. ii., pp. 13-14; 23; 47-48; 216-217; 324; 356; 668. *Vide* especially p. 307: "Die eine (Betrachtungsweise) ist die subjektive, welche, von *innen* ausgehend und das *Bewusstseyn* als das Gegebene nehmend, uns darlegt, durch welchen Mechanismus in demselben die Welt sich darstellt, und wie aus den Materialen, welche Sinne und Verstand liefern, sie sich darin aufbaut. Als den Urheber dieser Betrachtungsweise haben wir *Locke* anzusehen: *Kant* brachte sie zu ungleich hoherer Vollendung," etc.

being subordinated to a subjectivist interpretation.[1] In place of an objectivity conceived as the element of universal significance in the content *known*, we have a world of objects *intuited as caused;* and it is this feature (which is merely a onesided, *i.e. objective* way of expressing the general principle that subject and object are relative) that constitutes their objective character.[2]

Page by page in Schopenhauer's criticism of Kant we can trace the naïve judgment which, under the impression that it is removing excrescences and introducing improvements, succeeds only in missing the point of the whole matter. Thus, dealing with "the object of the categories" ("der Gegenstand der Kategorien"), which is to be distinguished as the "Objekt an sich" from the "Ding an sich," Schopenhauer remarks a three-fold division in Kant: 1, the "Vorstellung"; 2, the "object" (Gegenstand) of the "Vorstellung"; and 3, the thing in itself. The first is the object given in sense ("Sache der Sinnlichkeit"), and includes not only sensation but the forms of intuition, space and time. The second is the object of the understanding, and is added by thought through the twelve categories. The third class lies beyond all knowability. Thereupon Schopenhauer proceeds to demolish the difference between 1 and 2, adducing Berkeley's proof, as well as Kant's own "completely idealistic standpoint in the first edition" of the *Critique of Pure Reason.* But now if 2 cannot be absorbed in 1, it must be annexed to the thing in itself—which of the two courses we adopt depending, according to Schopenhauer, in the end, on what we understand by object. The important point is that the interloper be got rid of, and that nothing be left in the field but "Vorstellung" and "Ding an sich".[3]

While Schopenhauer may be justified in his criticism of the "Objekt an sich" as an anomaly in Kant's later position, and while, as is implied, it is a matter of indifference in which of the two possible ways the "Objekt" is disposed of, it does not by any means follow that once we have got rid of it, we are left with a pair of simple and intelligible alternatives such

[1] *Kritik der Kantischen Philosophie*, p. 530. *Cf.* Schopenhauer's denial of the Kantian distinction between subjective and objective succession, *Vierfache Wurzel*, p. 86. 'Both are "Begebenheiten," the knowledge of which is objective, *i.e.* a knowledge of changes in real objects, which are known as such by the subject. Both are changes in the relative position of two bodies.'

[2] *Kritik der Kantischen Philosophie*, pp. 519-521; 525 ("unsere empirische Anschauung ist sofort objektiv; eben weil sie vom Kausalnexus ausgeht"); 527-530.

[3] *Ibid.*, p. 526. *Cf. Vierfache Wurzel*, p. 27.

as Schopenhauer supposes. As a matter of fact it is hardly possible to derive from Schopenhauer's account any quite clear and consistent idea either of the alternatives themselves or of their interrelation. His desperate attempts to formulate the thing in itself as the inexplicable will which somehow *has* appearances, although it does not *itself* appear,[1] gave rise to confusions which from the beginning laid him open to the charge of contradiction.[2] The "Vorstellung" is equally obscure. In so far as it is to be identified with the Kantian phenomenon (and this is certainly Schopenhauer's meaning), nothing could be more inappropriate than the attempt to explain it by reference to Berkeley's proof that no difference exists between the "Vorstellung" and its object. This would be to reduce it to what Berkeley understood by "idea"—*i.e.* to sensation. But Schopenhauer expressly distinguishes sensation from "Vorstellung,"[3] the former merely furnishing material to the understanding for the creation of the latter through its single "form," causality. The objectivity of the "Vorstellung," thus distinguished from sensation, becomes in the end something highly enigmatic. When Schopenhauer remarks that it depends on the sense in which the word "Objekt" is understood whether the Kantian "Objekt an sich" shall be annexed to the "Vorstellung" or to the thing in itself, he is really uncovering an ambiguity which plays havoc with his own conception. At one time he defines the objectively real in terms of the "Vorstellung" and its implications;[4] at another nothing short of the thing in itself will meet the demand for such reality. The result is something not far short of a rupture through the whole fabric of his

[1] Here is an example: "Denn es ist eben das Ding an sich, welches, indem es erscheint, jene Phänomene darstellt, von ihnen selbst gänzlich verschieden, zwar in seiner Erscheinung dem Satz vom Grund, als der Form der Vorstellung, völlig unterworfen, selbst aber nie auf diese Form zurückzuführen, und daher nicht ätiologisch bis auf das Letzte zu erklären, nicht jemals vollständig zu ergründen; zwar völlig begreiflich, sofern es jene Form angenommen hat, d. h. sofern es Erscheinung ist; seinem innern Wesen nach aber durch jene Begreiflichkeit nicht im Mindesten erklärt." *Die Welt als Wille*, etc., vol. i., p. 145.

[2] *Vide, e.g.* Herbart's review of the *World as Will and Idea*, reprinted in his *Works*. Some of the criticisms are based on a superficial literalism in the interpretation of passages.

[3] *Vierfache Wurzel*, pp. 52-59; 67.

[4] Ich bemerke bei Gelegenheit der Haupterörterung dieses Paragraphen, dass, wenn ich, im Fortgange der Abhandlung, mich, der Kürze und leichtern Fasslichkeit halber, des Ausdrucks *reale Objekte* bedienen werde, darunter nichts Anderes zu verstehen ist, als eben die anschaulichen, zum Komplex der an sich selbst stets ideal bleibenden empirischen Realität verknüpften Vorstellungen. Anmerk. to p. 33 *Vierfache Wurzel*.

thinking. For we are faced with the two-fold view according to which on the one hand the objective appears as the element in consciousness which renders our sensations explicable by giving us their causal references along with them, and on the other we reach the objectively real only where the causally explicable, *i.e.* the superficial world of appearance, yields to the inexplicable reality of the will. Thus the Kantian conception of the objective as the universal character of experience, a conception which brings experience and science together by interpreting the former as scientifically explicable and the latter as an exposition of the principles which render experience possible, is superseded by the paradox that the objectively real and the explicable vary inversely—a view which suggests that in the end the character of reality is to be found (if anywhere in the world of the knowable), where knowability in any scientific sense is at its minimum—*viz.* in the inexplicable data of personal experience.[1]

To sum up these considerations in so far as they have a bearing upon the question of metaphysics and knowability, we must recognise that Schopenhauer begins by limiting Kant's extreme demand for absoluteness in the subject-matter of metaphysics. In this way he contrives to restore the metaphysical to knowability, but only by a reinterpretation which detracts from the objective character of knowledge as formulated by Kant, and leads to hopeless ambiguity.

Schopenhauer indicates his point of departure from Kant by ascribing to the thing in itself such knowability as is implied in its identification with the will.[2] This enables him

[1] *Vide* a very significant passage immediately following one already quoted: "Daher, je mehr Nothwendigkeit eine Erkenntniss mit sich führt, je mehr in ihr von Dem ist, was sich gar nicht anders denken und vorstellen lässt—wie z. B. die räumlichen Verhältnisse—je klärer und genügender sie daher ist; desto weniger rein objektiven Gehalt hat sie, oder desto weniger eigentliche Realität ist in ihr gegeben: und umgekehrt, je Mehreres in ihr als rein zufällig aufgefasst werden muss, je mehreres sich uns als bloss empirisch gegeben aufdringt; desto mehr eigentlich Objektives und wahrhaft Reales ist in solcher Erkenntniss; aber auch zugleich desto mehr Unerklärliches, d. h. aus Anderm nicht weiter Ableitbares". *Die Welt als Wille*, etc., vol. i., p. 145. Knowledge of the will is mentioned as a posteriori, *ibid.*, vol. ii., p. 219. In p. 268 Schopenhauer gives a catalogue of things that are "Sache des Willens," *viz.* "Wunsch, Leidenschaft, Frende, Schmerz, Güte, Bosheit, auch was man unter 'Gemüth' zu verstehen pflegt, und was Homer durch φιλον ἠτορ ausdrückt".

[2] By distinguishing a knowledge of the will in self-consciousness from a knowledge of the "Vorstellung" through the intellect (*vide Die Welt als Wille*, etc., vol. ii., pp. 294; 304; 306-307; 419 *sq.*, 513; 738) Schopenhauer has anticipated the line of cleavage in recent metaphysical thinking; and a study of the words in which he attempts to formulate the distinction is of some importance on this account.

to detect metaphysical reality, as we have just seen, in the immediacy of personal experience; and recent thought in some of its phases, even in phases profoundly opposed to Schopenhauer's line of development, has gone so far as to maintain that God (the reality *par excellence* of the traditional metaphysic) is present with a certain *literalness* in experience even at the level of sensation,[1] that experience is itself metaphysical,[2] and that the real in the form of other minds than our own is directly, and not merely inferentially, knowable.[3]

It is obvious that the position of metaphysics as a distinct discipline is as much threatened by this tendency to seek the metaphysically real in the actuality of experience as it is by the denial of knowability to the thing in itself. If metaphysics is to be preserved, therefore, the presence of the metaphysical in experience must be defined in a way that will leave some aspect of reality unexhausted by experience as such. The problem of post-Kantian metaphysics has come to be that of finding a sphere which philosophy, while maintaining the necessary relations with the sciences and experience, may yet occupy in its own right and without ceding its substance and its method to either. What the situation demands is a certain closeness of relation, short of identity, between philosophy and the conscious life of man as a whole.

Such an adjustment (or at least the possibility of such) is suggested by Herbart when he says that in its relation to

[1] W. E. Hocking: *The Meaning of God in Human Experience*, p. 302. The passage referred to is sufficiently remarkable to warrant quotation: "It is not customary, I know, to seek for God at the level of sensation: that is one reason why it has seemed to me important to have found Him there. Sensation may supply, as it were, a missing dimension to our thought of God. God must now be to us not less real and present than Nature, not less definitively here and now than these impressive objective Facts." Even Hegel, with his respect for the "things of this world," with his strong insistence upon the *positive* in religion, as in politics and jurisprudence, falls far short of this demand for *literalness*. For him God is still, always and specifically, what can never be apprehended by the senses. *Encyklopädie*, §§ 12; 19, Zusatz 2; 21 Zusatz and *passim*.

[2] Hocking, *op. cit.*, p. 303.

[3] *I.e.* at least as directly as anything else that pretends to actual existence. *Vide* G. P. Adams: "The Mind's Knowledge of Reality," in *The Journal of Philosophy, Psychology and Scientific Methods*, Feb. 4, 1915. Hocking, *op. cit.*, Part IV., ch. xvii. Mr. Hocking draws attention to a passage in Münsterberg's *Grundzüge der Psychologie* (pp. 44-55). Münsterberg's remarks on the direct sense of reality in the spatially and temporally distant (p. 48) are worth comparison with Mr. Adams's views on the solidarity of past and present time in our appreciation of the known real.

the rest of knowledge philosophy is altogether immanent [1]—an expression which, if taken in a sufficiently wide sense, undoubtedly indicates the prevalent attitude of the two main schools of thought that have stood for a perfectly distinctive, positive metaphysic in modern times—Realism and Idealism.[2] If so, it should be possible to characterise these divergent theories in terms of the interpretation which they respectively place upon the immanence of philosophy in human knowledge. From this point of view all differences can be reduced to two fundamental oppositions. On the one hand philosophy may be conceived as immanent in knowledge in the sense that when developed to the fulness of its inherent possibilities this same knowledge will be found to furnish the actual content or determinate character of that substantive reality which is the subject-matter of philosophy. On the other hand the immanence of philosophy may be understood to mean that an analysis of all that is known will reveal the presence of certain irreducible differences in the *knowable* (to be dealt with only by such speculative methods as logic has at its disposal), in virtue of which some *knowables* stand out as *reals* or the ultimate substantival terms of existence, while the remainder appear as *real relations* or other real but non-substantival predicaments of the former. These two points of view are represented, in the two most positive and most distinctively antithetical metaphysical theories of modern times, by Hegel and Herbart.

The Idealism of Hegel is distinguished by a highly articulated and extremely definitive logic, and this logic, which must be understood as an objective body of truth,[3] is presented as an abstract formulation of the actual content or adjectival articulation of a reality designated the Absolute or God. All the logical categories from Being on are stated as *definitions* of this substantival reality.[4] The importance of this proposition can hardly be overestimated. The Hegelian metaphysics, taken for what it professes to be, stands or

[1] *Ueber Philosophisches Studium*, Werke II., p. 230 (Kehrbach's edition as throughout). That Herbart means knowledge in the form both of experience and of science appears from a passage in the *Lehrbuch zur Einleitung in die Philosophie*, W. IV., p. 30.

[2] Herbart is at one with Hegel in insisting that it is only in its *manner* that philosophy differs from other forms of knowledge. "Die Philosophie besitzt nicht, gleich andern Wissenschaften, einen besondern Gegenstand, mit dem *sie* sich ausschliesslich beschäftigte: ihre Eigentümlichkeit muss also in der Art und Weise gesucht werden, wie sie jeden sich darbietenden Gegenstand behandelt." *Lehrbuch*, etc., pp. 29-30.

[3] Hegel characterises the traditional logic, in contradistinction to his own, as subjective.

[4] *Encyklopädie*, § 85.

falls by its ability to give an intelligible meaning to the statement that the Absolute is *defined*.

That difficulties would arise over this question Hegel perceived in stating the principle, and he hastened to add that the form of *definition* was superfluous, since the subject stood for the indeterminate substratum, the *thought* or matter involved (der Gedanke, die Sache) being contained entirely in the predicate. This explanation must be taken as a decisive factor in the estimation of Hegelian Idealism. Reality or the Absolute is something of which the whole significance lies in the evolving content or definition. From this we must conclude that if the substantive reality is to have any meaning *as absolute*, the absoluteness in question must be the absoluteness of its content. In other words the content of the Hegelian logic (not, of course, in any one or more of its individual phases, but in its completeness) is to be taken as the absolute and definitive body of philosophy. This view is abundantly borne out by Hegel's procedure. The progressive definition of the Absolute is given with the utmost exactitude in the dialectical evolution of the categories, the starting-point being determined with precision,[1] and the first and third member of each triad taken as expressing in order some moment in the positive content of the real.[2] Thus the *application*, in contra-distinction to the *character*, of the logical content loses all importance, if not, indeed, all meaning, for philosophy—there being, strictly, no legitimate *philosophical* question except as to the nature of the content as such.[3] For this reason there is soundness of judgment, at least as to where we should look for Hegel's own meaning, in Mr. McTaggart's contention "that the really valid part of Hegel's system is his Logic, and not his applications of it".[4]

It is no part of our present purpose to comment upon the Hegelian dialectic; but a few remarks will be necessary on the Idealistic interpretation of metaphysics as determined by

[1] *Being* indicates the point where *thought* (der Gedanke), historically as well as logically, first makes its appearance. *Encyklopädie*, § 86, Zusatz 1, 2.

[2] *Ibid.*, § 85.

[3] *Vide, e.g.*, Hegel's criticism of Kant on the ground of his subjectivity —the charge being that Kant does not consider the categories *in themselves* ("an und für sich"), but only from the standpoint of the question whether they are subjective or objective. *Encyklopädie*, § 41, Zusatz 2; § 42, Zusatz 3, on the importance of the question of Being. "Bloss dadurch indess, dass ihnen das Seyn zukame, gewonnen weder die Gegenstände noch wir etwas. Es kömmt auf den *Inhalt* an, darauf ob dieser ein *wahrer* ist." *Cf.* § 46.

[4] *Studies in the Hegelian Dialectic*, p. 238.

the principle so emphatically promulgated by Hegel, that the question for philosophy is the question of content. This principle, as we have just seen, by transferring all meaning from the Absolute as the subject of definition to the definition of the Absolute in the total content of the Hegelian logic, issues in a view which requires us to attribute absoluteness, and therefore finality, to the content of the system itself. As a matter of fact, historically speaking, the Idealistic movement since Hegel has not advanced at all along specifically Hegelian lines. What progress has occurred (if indeed it can be called progress) has been in the nature either of a critical departure from Hegel or else of an attempt to apply his principles in special fields, such as ethics, æsthetics and politics—a somewhat minor service if it is really to logic rather than to its applications (whether by Hegel or by others) that we must look for the true significance of Absolute Idealism. Hegel's philosophy therefore marks the limit of achievement in this interpretation of metaphysics, and for this reason has proved a speculative *cul de sac.*

No better evidence could be adduced than the anomalies which appear in English Idealism, as this has fallen more and more definitely under the influence of the Hegelian standpoint. Already in Green we have the distinctive Idealistic principle, the ideality of the finite,[1] conceived, however, in a peculiar way, in terms, *viz.*, of constitutive relations. It is only through these that the Infinite or timeless principle can acquire meaning ; and English Idealism has in general given a central *rôle* to relations as internal and constitutive as the ideal content of a real Absolute. The significant feature is that no attempt is made to develop a complete and systematic theory of relations. The thoroughly otiose character of the latter comes out clearly in the transition from Green, for whom relations are, theoretically, the very essence and tissue of the world, to Bradley, for whom they are not even thinkable. The truth is that English Hegelianism, in spite of its professions, has never been able to make anything of relations ; but on the other hand it has never really had any need of them. Strictly speaking, it is with the *idea of relatedness* rather than with relations as such that it has to do, and the strange thing in Mr. Bradley's attitude is not that he should have found that idea contradictory, but that he should have thought the fact in any way

[1] "Diese Idealität des Endlichen ist der Hauptsatz der Philosophie, und jede wahrhafte Philosophie ist deswegen *Idealismus.*" *Encyklopädie*, § 95.

remarkable.[1] Mr. Bradley's sensitiveness to the contradictory element in the ideal qualification of reality is essentially opposed both to the spirit and to the letter of a genuine, *i.e.*, a courageous Idealism. It is alien in temper to Hegel's robust acceptance of the contradictory as the very *nature* of the world of finite things, and brings the English view immediately under the fire of just such criticism as that which Hegel directed against Kant, when he complained that the whole phenomenalistic position, with its antithesis of appearances and things in themselves (once more an antithesis to which Hegel was thoroughly opposed) was due to an excessive tenderness for the things of this world.[2]

The remark occurs in a passage in which Hegel criticises Kant's handling of the antinomies, and it shows a just appreciation of the part played by the contradictions inherent in experience in leading Kant to formulate the distinction of phenomenon and noumenon. It is difficult to evade the conclusion that in its ultimate significance Mr. Bradley's method of taking refuge in the Absolute against the contradictions of the finite—a completely non-Hegelian procedure—is really an unconscious return to Kant's phenomenalism in its least satisfactory aspect (an aspect in which it does not at all represent Kant's best critical thinking),[3] and that the Bradleian Absolute is just the Kantian Noumenon in its most otiose and negative form.

To sum up the situation so far as Idealism is concerned, we may say that the view of metaphysics which postulates an Absolute, and for the rest proceeds to unfold a content which shall be the definition of this, cannot stop short of demanding absoluteness for the definitory content itself. Hegel was the last Idealistic thinker adequately to realise this truth, and since Hegel there has been no genuine Idealism. There has been no Idealism because there has been no willingness either to accept the systematised content of Hegelianism as final or to elaborate an equally precise and exhaustive system as the definitory content of the Absolute. By this is not meant that the quasi-Hegelians of recent times are altogether wrong in emphasising the application of general Hegelian principles (such, *e.g.*, as the ideality of the finite or the de-

[1] It is obvious that every *determinate* or finite relation must, on Idealistic principles, involve a contradiction, for the same reason that every determinate proposition is, according to Hegel, *ex hypothesi*, false. *Encyklopädie*, § 31. *Cf.* § 82, Zusatz: "Ein spekulativer Inhalt kann deshalb auch nicht in einem Satz ausgesprochen werden".

[2] *Encyklopädie*, § 48.

[3] The point will be touched upon later.

finition of truth in terms of the Whole) to specific problems, rather than the literal content and order of the Hegelian logic. It may well be that the elements of permanent value in this stupendous structure of thought are really incidental and in the end more or less independent of Hegel's method ;[1] but in this case Hegel loses the ground on which his claims to be considered a scientific philosopher are staked ; and the category which suits him best is that of mystic—in a sense fundamentally opposed to that in which he accepted and welcomed the designation. His *system*, while still perhaps meriting the adjectival qualification of metaphysical, ceases to be in any fundamental respect different from those doctrines which he has branded, as something less than genuinely speculative, with the designation, " metaphysic of the past ".

To turn now to the second of the two senses in which the *immanence* of philosophy may be understood, Herbart has left us in no uncertainty as to his own interpretation. " Metaphysics has no other definitory function (Bestimmung) than that of rendering thinkable the same ideas which experience forces upon it."[2] The implication is that as they occur in actual experience the ideas referred to are contradictory ;[3] and this according to Herbart is the case. The condition of speculation in the philosophical sense is stated in the words : " If speculation is to be possible, a pure manifold must be, in the first place, *given* or *presupposed for the purposes of philosophical investigation*, but, in the second place, it must in some way be given together. In this Together (Zusammen) there must be inherent contradictions. These contradictions speculation will assail and resolve. Wherever they occur, speculation finds its work to do. . . .

" In the circle of experience there occurs a complex combination of the manifold, appearing in the form of simple sensations."[4]

From another point of view the immanence of philosophy depends upon the fact that being or reality is implied in the mere fact of appearance. Seeming, *qua* seeming, *is ;* but by definition it is not what it seems. Nevertheless it implies or points to being. Consequently, as Herbart puts it : " Wie viel Schein, so viel Hindentung aufs Seyn ".[5]

[1] Benedetto Croce's estimate of the really vital elements in Hegel's teaching is one which the writer on the whole strongly approves.

[2] *Lehrbuch zur Einleitung in die Philosophie*, W. IV., p. 208.

[3] *Lehrbuch*, etc., Vierter Abschnitt, Cap. 1. Nachweisung der gegebenen, und zugleich widersprechenden, Grundbegriffe. *Cf. Hauptpunkte der Metaphysik*, W. II., p. 181. " Herausschaffung des Widerspruchs ist der eigentliche Actus der Speculation." *Vide ibid.*, Vorfragen.

[4] *Hauptpunkte*, etc., p. 185. [5] *Ibid.*, p. 187.

This two-fold method of stating the case determines the manner in which Herbart's Realism must be interpreted. From the first point of view the problem of philosophy is the strictly logical one of so arranging the elements of experience that inconsistency shall be removed—a task which leads to the artificial procedure of the "method of relations". From the second point of view reality, in the sense in which alone philosophy can understand the term, appears as an *inference*, and therefore not *as reality* but as *the concept of* reality. The paradoxical conclusion of the Herbartian Realism (a Realism based expressly on the duality of thought and the real) would seem to be a position from which reality is accessible only in the form of a Begriff.

The difficulty which the position entails needs no further statement; but a few particulars will serve to bring out the paradox.

The "method of relations," which Herbart is careful to distinguish from any mechanically applied mathematical formula, states in general the kind of expedient by which the thinker, when face to face with any definite, given contradiction, must proceed to a solution. The contradiction arises from the fact that two or more elements are *given only in conjunction*, whereas they cannot without contradiction be *thought* in conjunction. If M and N are such elements, A may represent the total given concept (Hauptbegriff) that includes them both. Outside A, M and N do not *occur;* combined in A, they contradict each other. Such a contradiction is found in the concept of *ground*, M (*e.g.* the two syllogistic premises), which, while distinct from that of *consequent*, N (*e.g.* the syllogistic conclusion), is yet incomplete and impossible without the latter. From the standpoint of thought, therefore, the conclusion N is the *completion* or supplementary concept (Ergänzung, Ergänzungsbegriff) which is needed in order to free the premises M from contradiction; while in so far as the concept M has reality (*i.e.* represents something original and actually given in experience *or* thought), N has the character of a "presupposition" and "point of reference" (Beziehungspunct). The problem, therefore, is to discover some device whereby the necessary supplementation of M by N may be effected without the simple and contradictory identification of each with each.[1]

It is obvious that this method of stating the question implies the Realistic presupposition that thought and reality

[1] *Hauptpunkte*, pp. 181-184.

are different; but the significant point is that in representing the Zusammen (the originally given complex real) as involving a *contradiction in thought*, Herbart by implication introduces some sort of amenability on the part of the real to the character of thinkability—so much, *i.e.*, as is implied in the capacity to contradict and be contradicted.—What is further significant is the implication on which his whole view of speculation rests—*viz.*, that there is a certain importance or perhaps necessity in showing how the demands of thinkability and what he would call "validity" may both be met.

Like his method of formulating the problem, Herbart's solution involves his realistic presupposition, and indeed may be regarded as amounting to little less than a tautological repetition of the main assumptions involved in his statement of the problem itself. As real, M is combined with other members. As thought, M must be separated from everything else. From this point of view, therefore, there must be, not one, but two or more Ms; and the general concept A, under which M and N are represented as identical, "leaves it undecided whether one or several Ms is meant". Here then is the condition which enables Herbart to resolve the contradiction in thought, while leaving reality standing. "If we think several Ms (or Ns) together" (*i.e.* in terms of the illustration, if we think the premises, the two-fold M, together) "definite results" (in this case the conclusion) "must emerge, in virtue of which the contradictory characters (Merkmale) will disappear." The presuppositions of the Together (*i.e.* the conditions which enable us to realise it—here the identical element in the premises), when found in each individual instance of M, give us right away the supplementary concepts. In other words, the middle term is directly responsible for the conclusion; but, adds Herbart, "the Together itself is identical with N".[1]

This example from the formal logic must not, of course, be pushed too far. It is only an instance of a universal principle which may find its material anywhere in the real. A further illustration of the method occurs in the I which can neither exist without, nor yet be identified with, its manifold and ever-vanishing object. "The conception of the I thus possesses in the fullest degree the peculiar property of speculative problems—that of contradicting itself. And the contradictions must be soluble, since the I-hood is ineradicably entrenched in consciousness. . . ."

[1] *Hauptpunkte*, p. 183.

"The identity of the object and the subject must be denied. Granted, therefore, the subject, we must postulate *something else* as object, or rather *several* other things as objects; and in their *Together*, the subject itself.

"(To recall the question of method, M cannot be simple; for it is in contradiction with itself, since, as thinkable, it must *not* be *one* with N, as valid" (*i.e.* as actual or actually applicable in the real world), "it must be *one* with N. To remove the contradiction means to deny the identity of the members. The result is a thinkable but invalid M and a valid but unthinkable M. But the thinkable, apart from N, looks forward to becoming valid through union with N. The valid *presupposes* that it is thinkable apart from N. Consequently both exist at once, or M is doubled.—This of course must be taken as expressing, not a literal duality, but in general a plurality of M. We conclude that the contradiction in A has its source in the fact that a single M, instead of several Ms taken together, had been believed identical with N.)" [1]

The difficulty of this solution may be stated as follows. Herbart begins with a composition (Zusammen) of elements, M and N, as an original datum of consciousness, and, therefore, valid and real. Since this composition involves contradiction it is unthinkable. The contradiction is removed by frankly distinguishing M *with* N from M *without* N. This leads to a new Zusammen—the composition, *viz.*, of all the different Ms which a scrutiny of the case in point reveals; and the combination appears as identical with N.—Now it is possible to understand this Zusammen where the two-fold M stands for the premises of a syllogism, and is consequently identical with the conclusion. The *togetherness*, however, is here intelligible only under the presupposition of a rational system, of which, indeed, the syllogism would itself be the formula. But surely such a solution is not calculated to throw light on the *real* togetherness of factors which contradict one another. In any case the rationally intelligible combination of premises in the conclusion of a syllogism is something entirely different (it certainly *should* be so on Realistic principles) from the combination as it will appear in other instances—in the combination of objects, for example, which Herbart identifies with the subject. How is this latter combination to be understood? Is there any uniformity of principle underlying the varieties of *togetherness*? Evidently not.[2] For Herbart expressly remarks on the

[1] *Hauptpunkte*, pp. 207-208.

[2] All the difficulties of the Herbartian presentationism spring originally from the attempt to work out the development of the togetherness

uniqueness of the individual instance, which must be examined on its own account with a view to discovering the nature of the Zusammen.[1] Thus Herbart concludes with the Realistic appeal to the uniqueness of the individual.[2] This is the abandonment of scientific explanation, and, as a matter of fact, the whole tendency of Herbart's thought [3] is in the opposite direction—in the direction, *viz.*, of an abstract logical handling of concepts not themselves real, but assumed to give the genuine *character* of the real when the latter is stripped of its superficial appearance and viewed as it is in itself. It is by means of this abstract logic that we learn to know the real which underlies, and which, as we have seen, is represented as an inference from, appearance.

This brings us to the second method of stating the function of philosophy. Once more a few illustrations will serve to make clear the highly rationalistic procedure of this Realism.

Unlike Schopenhauer,[4] Herbart has no difficulty in accepting *conceptions* as the object of philosophy.[5] He further distinguishes the province of philosophy from that of the other sciences on the ground that the latter are "immersed in the study of that which is either given or at least could be given".[6] As regards mathematics he writes in this connexion: "Even mathematics . . . as customarily treated, looks upon its most abstract formulæ as formulæ for possible cases, and very readily symbolises its functions in the form of curves, just as it leaves space out of the question, only to return to it with increased mastery. Philosophically treated, mathematics becomes itself a part of philosophy, which latter by its peculiar needs would be compelled to invent a doctrine of quantity if none were forthcoming." [7]

In the *Lehrbuch zur Einleitung in die Philosophie* Herbart again defines philosophy in contrast to the sciences as not

of presented objects without reference to any original unity in the subject.

[1] *Hauptpunkte*, etc., pp. 182-183.

[2] "Der Anknüpfungspunct, vermöge dessen nicht irgend ein Ich, gesetzt wird, sondern Ich Mich setze,—sind die eignen, unmittelbar gegenwärtigen Bilder." *Ibid.*, p. 209.

[3] So far, that is, as his general Realistic metaphysic is concerned.

[4] Schopenhauer's point is that while philosophy works with concepts, these constitute its instruments rather than its theme.

[5] "Die allgemeinen Begriffe, die hier den Gegenstand unserer Betrachtungen ausmachen," etc. *Über philosophisches Wissen und philosophisches Studium* (1798), W. I., p. 87. "Es ist nämlich die Eigentümlichkeit dieser unsrer Wissenschaft: dass sie *Begriffe* zu ihrem *Gegenstande* macht." *Ueber Philosophisches Studium*, W. II., p. 275.

[6] *Ibid.*, p. 275.

[7] *Ibid.*

having to do with the comprehension of a given.[1] "But," he adds,[2] "when it is a question of philosophising, the object is presupposed as known, and for that very reason is called a *Conception* (Begriff)".[3] "From this we derive the definition of philosophy. Philosophy is an elaboration of concepts (Bearbeitung der Begriffe)."[4] The kind of elaboration gives us the different philosophical disciplines. Logic, for example, elaborates concepts with a view to rendering them clear and distinct. Metaphysics is substantially the application of the method of relations. ". . . The attempt to comprehend the world and ourselves introduces many conceptions which, as they are rendered clearer, permit less and less the desired unification of our thoughts. On the contrary they produce a cleavage in every theme on which they can exercise any influence. We often are at pains to avoid such conceptions entirely in the other sciences. But our pains are useless, and consequently there remains for philosophy the important task of *altering* conceptions of the sort in question along lines rigorously determined by the peculiar character of each individual conception. The alteration brings with it something new, by the aid of which the previous difficulty is got rid of. This new element may be designated a *supplementation* (Ergänzung). Consequently the supplementation of conceptions is the second way in which conceptions are elaborated. The corresponding science is called *metaphysics.*"[5]

Thus we can only conclude that the character of the real as known by metaphysics is arrived at by a process of manipulation for which there is no other designation but the term *logical*. It is true that Herbart emphatically distinguishes logic and metaphysics;[6] but he does so by giving a very narrow and formal interpretation to logic. So long as metaphysics is defined in terms which exclude from it every element of *given* reality and limit it to conceptions, there can be no real grounds for the distinction, as Hegel clearly realised. To contend that the method of relations is relative to the specific nature of the material involved, and is, therefore, incapable of complete generalisation in the manner of a mathematical formula, is to say no more than that the con-

[1] In the *Lehrbuch* he brings mathematics and philosophy together on the ground that neither deals with the given. P. 49.

[2] P. 35.

[3] Presumably something we *conceive* to begin with—"soviel als *Begriffenes*, und nicht zu verwechseln mit einem *Inbegriff* irgend einer Art".

[4] *Lehrbuch*, etc., pp. 38-39.

[5] *Ibid.*, pp. 45-46.

[6] *Ibid.*, p. 55 (*Lehrbuch*, etc., 3rd and 4th editions).

ceptions involved are not mere mathematical symbols, but contain a meaning of their own; and the only real question is whether logic is or is not to exclude everything in the nature of concrete variable meaning.

It is very significant that modern Realism, owing little or nothing to the teaching of Herbart, diverges from his attempt to formulate the nature of the real chiefly by bringing philosophy more explicitly under the influence of a more adequate logic. The result, so far as one can judge from the sort of work that has been done, would seem to be an ever-narrowing definition of the sphere and problem of philosophy. The limit in this direction is reached by Mr. Bertrand Russell, who in his most recent volume attempts to restrict philosophy to that which cannot possibly vary from one world to another, thus excluding (or intending to exclude) ethics, which for Herbart still furnished a leading division of the subject.

It is now time to point the contrast to which this exposition has been leading. On the one hand modern Idealism, attempting to formulate reality in terms of its rational *content*, and finding a chief part, if not the whole of content, in relations, conceived as internal and constitutive, neglects to formulate a theory of relations, and ends by reaffirming the Kantian antithesis of appearance and reality—an antithesis which, in strict consistency, should have been, as it was by Hegel, entirely absorbed in the problem of the development of content. On the other hand Realism, postulating the distinctness of thoughts and things, attempts to define the real by developing the content of the *science* supposed to furnish a knowledge of it, and concludes by rejecting the given as in any way adequate to the ultimate character of the real. There remain the attenuated abstractions of a symbolic logic —a logic in which the proposition itself is superseded by the propositional function, and the only *reality* discoverable is the reality of abstract thought.—To complete the contrast we need only add that it has been left to Realism to take the first steps in developing that theory of relations which Idealism overlooked. Thus is Idealism haunted by the thought of a reality which is never fully explained or explicable by the conceptions at its disposal, while Realism, recognising in logically authenticated conceptions the only genuine knowledge, hands reality over to the custody of ideas.

To return, in conclusion, to the position of Kant as illuminated by the developments we have just traced, it would seem that phenomenalism, in so far as it implies the antithesis of appearance and reality, is a doctrine of which subsequent thinking has been able to make nothing. Neither Idealism

nor Realism can sustain the antithesis. The former, when consistent with itself, makes this plain; and in so far as it reverts to the distinction, it falsifies its own principles.[1] As for the latter, its professed purpose is to give the character of reality to that which authenticates itself at the bar of human reason—a process which leaves us with a collection of just such scientific truths as Kant relegates to the sphere of the phenomenal.

On the other hand it would be a radical error to see in the antithesis of appearance and reality as such the only or ultimate significance of the Kantian phenomenalism. That antithesis, when seriously meant, connotes in terms of being the same distinction which in terms of judging or knowing we conceive as that of truth and falsehood. But for Kant truth in the theoretical sense belongs exclusively to the sphere of the phenomenal. It is the agreement of thought with its *object*, and therefore, in the Kantian sense, with something genuinely *objective*. It was Schopenhauer's fundamental error (as indeed, though in a less crude way, it was Hegel's) to see in Kant's phenomenalism a subjectivism akin to Berkeley's. The truth is that phenomenalism, as Kant understood it, is the very opposite of subjectivism. The phenomenon is not the mere appearance (Erscheinung), but the appearance indued with a universality that is original and native to it. Subjectivism is unable to account for the uniformities of scientific knowledge except on pragmatic and utilitarian grounds. Phenomenalism is a theory designed to establish the objective validity of scientific principles by purging appearance of inconsistency, and although this can only be done by introducing the antithesis of appearance and reality, the antithesis, *in so far as it concerns the content of Kant's theory of knowledge*, is entirely negligible.

But if we minimise the antithesis of appearance and reality, it follows that the conception of reality itself loses in significance. And this is a point which we desire particularly to make. Philosophy has laboured long over a supposed reality, imagined as its peculiar object, and conceived to possess a certain superiority of being over all else. This has led to that strange antithesis so pronounced in Plato, and found also in Aristotle, between philosophy and experi-

[1] Present-day Idealism sometimes deludes itself as to the extent to which the antithesis dominates it, by repudiating *the theoretical unknowability* of the thing in itself. In this way it thinks it has disposed of Kant's position. As a matter of fact the antithesis returns upon it by the discovery of the *unthinkability* and therefore unknowability of the phenomenal. Hence the Bradleian resort to the Absolute.

ence or between the experienced man and the thinker. As we have seen the whole tendency of modern thought has been against too rigid a formulation of the distinction—although, it must be confessed, the issue seems to have been, both in the case of Idealism and of Realism, a more than ever pronounced reassertion of the difference. Be this as it may, it is because of the element of absolutism in his statement of certain principles that Kant has been held up to censure as a metaphysical thinker in the worst sense. It is surely evident however that to the absoluteness of principles as such no exception can be taken on theoretical grounds. Or rather, none can be taken except on the assumption that experience as such is not amenable to rigid and unvarying law, but must be taken at its face value as a flux or chaos, in the welter of which we may at times detect coincidences and even suggestions of uniformity. From this point of view knowledge and morality must not be regarded as in any sense absolute, but merely as the tentative commentary of consciousness and feeling on an ever variable, ever uniquely individual experience. It need hardly be pointed out that experience in itself, experience as *experienced*, does not compel us to accept this or any other special interpretation. It is not experience but a *conception* of experience which is here at work, and the result is just the opposite from that which is intended. In attempting to discredit metaphysics (or any doctrine based on professedly absolute principles), as an interpretation of experience, the advocates of this view exemplify the fallacy of doctrinally committing themselves to a special view of experience. There is justification, however, for their error in the traditional method of formulating the problem of philosophy in terms of the distinction of appearance and reality. So long as the issue continues to be thus stated, it is difficult at the present day, and becomes progressively more difficult, to avoid the conclusion that it is to experience itself (*i.e.* to the realm of appearance) that we must look for the metaphysically real. And this proposition, in itself thoroughly sound, has had the effect of more and more obscuring the issue by first of all depriving philosophy of all distinctiveness and then giving it the distinctiveness of extreme abstraction. This is really to reinstate the discredited opposition. Thus the vicious antithesis, an inheritance from the great age of Greek philosophy, perpetuates itself through a succession of vicious circles. The hopeful feature is that when the confusion has been tracked to its source in the method (implicit or explicit) of proposing the problem, it is suggested that deliverance may be looked for in a new point

of departure ; and recent thinking is not wanting in attempts to reformulate the matter from the beginning. It is coming to be recognised that reality (in so far as the term has any meaning at all) does not connote some transcendent entity, substantive and absolute, in contrast to which the whole world of familiar and transient things has the adjectival value of a partial qualification. Instead, reality is coming to be recognised as a class name, independent altogether of the question of degree, for whatever enters into experience, happens, or in any way is or affects us as conscious subjects in a world that is obviously more than ourselves. So far we might very well be in the region of radical empiricism ; but radical empiricism, though central among the recent theories to which we refer, is only one of the tendencies that have resulted from the disintegration of the old metaphysical problem. Meanwhile it is enough to notice that the opposition of appearance and reality vanishes through the absorption of the former member in the latter ; and the path lies open for the reformulation required.

It is not difficult to see in a general way how this is to be obtained. In the end there are only two ways in which the metaphysical problem can be stated ; and these are both found in philosophy as far back as Plato. Either the problem is that of being and non-being, in their various forms and degrees, or else it is the problem of truth and the opposites of truth. Now although, as we have stated, this latter method of formulating the problem is well-known in philosophy, its successful application has been hitherto prevented by the preconception that it was somehow subsidiary to the solution of the problem as stated in the previous manner. This is the error of Plato, whose epistemology, although more significant and fundamental than his ontology, is formally subordinated to the latter. This too is the error that threatens modern realism, which otherwise appears to have come very near to realising the possibilities of the method in question. The result in each instance is the more or less deliberate abnegation of a genuine epistemology and the substitution for it of a highly formal logic. Hence the paradox, illustrated equally in the case of Plato and, recently, of Mr. Russell, of a radical empiricism (expressed in Plato's Protagorean theory of sensation and in Russell's subjectivism) subsisting side by side with the extremest rationalism. Such a dualistic position is the despair of philosophy, and indicates a failure in the synthetic work of thought. Fortunately the source of the difficulty is not far to seek.

The truth is that the ontological formulation of the meta-

physical problem continues to the present day to infect all endeavours at a restatement in terms of truth and its opposites, by narrowing down the latter opposition to the theoretical antithesis of what is and what is not. Outside the antithesis so stated there is the vast and all-inclusive opposition of the valid and the invalid, in relation to which theoretical truth and falsehood appear alongside ethical and æsthetic distinctions as a species under a genus. It is only by a frank recognition of the generic nature of this inclusive distinction, and a determination not to lose itself in one or other of the species, to the detriment of the whole, that philosophy can hope to emancipate itself from the difficulties of the ontological statement. If this is admitted we are now in a position to formulate the object of philosophy as the *scientific exposition of the principles of validity which give significance to human experience in every one of its distinctive interests;* and it is at once apparent that among the great historical systems, it is in the philosophy of Kant alone, if taken as a whole, and not merely as a criticism of knowledge, that any adequate approach to this method of reformulating the problem of metaphysics is to be found.

In this connexion we must notice once more the two-fold tendency of Kant's thinking—the separatist and the synthetic. Emphasising, as he does, the specific independence and mutual irreducibility of the principles which give significance to man's experience on its theoretical, practical and æsthetic sides, Kant at the same time so combines these principles that each of them loses its own significance apart from the others. We may say that it was necessary that the principles should be thus uniquely distinct and irreducible in order that man's life should be an integrated and intelligible whole.[1]

Nothing could be more instructive here than the contrast which Kant's position offers to Mr. Russell's. In the latter case we have the attempt to reach the unity of a distinctively metaphysical problem by a method of exclusion. The result is the complete disintegration of the meaning of life—the institution of an utterly unintelligible cleavage between the deeper and intenser interests of existence on the one hand and on the other the truth which somehow or other *should* constitute man's *deepest* interest and sole ultimate concern.

[1] The importance of the separatist tendency will be apparent. It is this tendency which makes Kant's rather than Hegel's rendering of truth the nearest approach yet made to synthetic completeness. The greater unity of the Hegelian system is the artificial product of bringing within the limits of a single method principles intrinsically distinct. Croce's characterisation of the fallacy as a confusion of distincts with opposites is admirable.

In Mr. Russell we have a philosopher with whom it seems to be a *moral* obligation to leave philosophy as little room as possible in the universe, and at the same time an ethical enthusiast in whose eyes morality is itself reduced to the level of standardless subjective feeling.[1] In his latest volume, as we have already remarked, he has expressly excluded from the philosophical everything that can possibly vary rom one world to another. From such a standpoint as this it must appear as indefensible a paradox as the *credo quia impossibile* appeared to Nietzsche, that any system of thought should, like the Kantian, claim distinctive merit (not to say special validity) for a view which enables us to affirm at once a world of knowledge universally determined by physical law, and a realm of freedom unconditional and absolute, a view which limits the knowable to what experience can verify and yet professes to establish immortality on demonstrative grounds. Even within the sphere of the strictly theoretical the principles which Kant formulates with such confidence as *a priori* universals, causality for instance, reduce in Mr. Russell's opinion to little more than generalisations from experience, suggesting constant functional relations. The full force of the diversity of view will however appear only if we consider that while for Russell this invariability of principle from one world to another, the product of extreme abstraction, is what makes philosophy possible, for Kant the function of philosophy, broadly considered, is to justify the simultaneous validity, in *different* worlds, of principles which in the abstract contradict one another.

This gives us the standpoint from which alone we can rightly estimate the significance of Kant's phenomenalism in its relation to metaphysics. Where knowledge is determined by the *principles of knowability as such*, the conditions of the case require that it be confined to phenomena. This is necessarily so because to refer knowledge to things in themselves would be to place it at the mercy of principles inherent in the latter. It would therefore be no longer knowledge determined as such by its own principles. Rightly understood, the Kantian phenomenon is in the last resort merely the objective correlate, in actual knowledge and experience, of the intrinsic principles of knowability revealed on reflection. This method of stating the matter shows at once why it is that knowledge must be limited to phenomena, and cannot at the same time refer (as Trendelenburg thought

[1] *Vide* his recent article on war in the *International Journal of Ethics*.

possible) to things in themselves. If, beginning with the principles of knowability, we seek to determine the character of the object corresponding to these, it is obvious that in the first place this object must be relative to these principles. That is, it must be defined in terms of that which makes it knowable, or as an object to a subject. Hence it must be phenomenal. In such a view of knowledge and the knowable, the absolute character of the metaphysical must be entirely excluded from the object known, and this is the exact extent and meaning of Kant's position when he denies the possibility of metaphysics. Metaphysical reality is not to be found in the character of the object as defined by the principles of knowability. On the other hand these principles themselves (even admitting their limitation to a specifically human experience) are exactly metaphysical, as Kant, for example, defines that term (and rightly defines it) in the *Lectures on Metaphysics*. They are *a priori* and universal, and are by no means abstractions from the experience in which they are exemplified. Thus even if we confine ourselves to the sphere of knowledge in the narrower sense, we are bound to conclude that Kant's epistemology implies the recognition of metaphysics. Our further contention was that the metaphysical must not be limited to the thinkable, but that there is a sense in which even for Kant metaphysical truth is *knowable*. It is knowable not as an *object*, not, therefore, in the sense in which knowledge is technically defined in the *Critique of Pure Reason*, but as a principle. The difference is the same as that which Kant expresses in the distinction of formal and material knowledge, but perhaps the real nature of the distinction is better conveyed in the way in which we have expressed it. If so, the whole matter could be summed up by saying that the principles of the knowledge of objects are not themselves objects of knowledge, but they are not on that account unknowable.

The rest follows almost of itself. If the principles of knowledge, though not known objects, are yet metaphysically knowable, the same thing will naturally hold of any other principles discoverable in the same way in experience. But Kant goes farther than this. He gives an exposition of morality which connects the latter as an implicate with the logically incomplete universe of phenomenally limited knowledge. This development is of first-rate importance as revealing to what extent Kant implicitly discards the last vestige of an ontologically conceived thing in itself. The latter could not be retained in the world of the knowable without destroying the autonomy of a knowledge found to

rest upon its own principles and deriving its validity from conformity to these. To a metaphysical knowledge of the thing in itself, of course, no objection could be offered on such grounds. Only, such a knowledge had no longer any meaning. The independence and absoluteness postulated in the thing in itself being found incompatible with the character which rendered anything whatever an object in the Critical sense, *viz.*, amenability to the principles of knowability, and the thing in itself being *conceivable* only as an object in the pre-Critical, rationalistic sense—*i.e.* as an ontological entity, we have the curious contradiction of the object in itself. This we can regard as a mere logical formula, the product of divergent lines of thought, and signifying rather a mutual cancellation than a combination of elements. To avoid the contradiction it was necessary only to remove one of the members ; and according as one or the other is removed, we have either the phenomenon (object) or else an absolute which is not an object and must therefore be a principle. Such a principle was obviously to be found in freedom or morality, which became the substitute for the ontological thing in itself, now reduced to meaninglessness. And here once more, in morality, we have all the conditions of metaphysical knowability—a priority and universality of application. The character of such knowledge now becomes clear. It is knowledge in the sense of an *intelligent consciousness* of principles, epistemological or other, deriving its validity not from conformity to the principles of knowability but from the validity of the principles of which it is the consciousness. Thus the metaphysical knowledge of morality, like the metaphysical knowledge of *knowledge itself*, finds *its* principle in the *principle known*, not, as in the case of the known object, in the conditions of knowability itself. If this is so Simmel's indictment of Kant's ethics, along with a considerable amount of incidental truth, must contain an element of radical error. The thing of importance, however, is that metaphysical knowledge, thus fundamentally differentiated from the objective knowledge contained in science and experience, is none the less implicated with the latter in such a way that everything begins with experience and what we find there. The phenomenalist epistemology which negates the ontological metaphysics of the past is the key which unlocks the door leading to a new metaphysics—a metaphysics having to do with every principle that determines the significance of human life.

III.—BEING AND BECOMING.

By L. M. Passano.

I.

"General ideas," says Emerson, "are essences. They are our gods: they round and ennoble the most partial and sordid way of living." It is, then, not to be wondered at that man's most general idea should be handed down from age to age, that the riddle of the meaning of the cosmos should offer itself for solution to each new generation. The search for a solution is doubtless largely a threshing of old straw, but none the less does each generation garner a few grains of corn into the store-house of truth as food for the inner life; and though it may well be that there is no answer to the questions, "What is man, that Thou art mindful of him?" and, What art Thou which art mindful of man? yet many partial answers have been offered, in general from two markedly contrasting, indeed often bitterly opposing points of view. The terms of this opposition change, but after all necessity and free-will, materialism and idealism, the mechanistic principle and the teleological, monism and dualism do in a way but illustrate the metempsychosis of the spirit of the idea through the body of the word. It is not our purpose to examine, or re-examine, in detail these systems under any of their names, but merely to point out, as we sketch the outline of the system which we accept, a few important particulars in which the opposing view seems fallacious. In conclusion we shall indicate briefly some evidence furnished by the theory of relativity in general support of our own views.

It is now universally conceded that to the physical world the mechanistic principle applies. The principles which prevail in the world of inanimate nature obey the laws of mechanics; and these laws, capable of exact mathematical statement, are simply the formal and generalised expression of what these principles are found to be by observation of physical phenomena and by experiment thereupon. When,

however, we enter the realm of the animate the idea of purpose is thrust upon our notice, and it is the phenomena of consciousness, more specifically of the will, which lead to the opposing views of teleology and mechanism, of dualism and monism.

We find it impossible to accept the dualism which marks off the animate and the inanimate as lying in two separate realms, or that which completely differentiates mental and physical life. Matter and mind-stuff, to use the terms of W. K. Clifford, are not for us distinct entities of such a nature that consciousness, "a stream of feelings," cannot "interfere with [or] influence" the body, which is itself an automatic, physical machine. The fact of consciousness, or more specifically the will, in man and other animals will not be denied, and its presence in plants also is accepted by many;[1] but the nature of consciousness or the will is a subject of dispute. In our view, as will be explained more fully, the will is a store of energy and an act of will is a liberation of stored up energy. That this is so, or that the will is a force, is denied by Clifford and others on the ground that the assumption would imply the creation of energy, somewhere in the process, when a stimulus passes through a sensory nerve to the brain and out through a motor nerve; a contradiction of the law of the conservation of energy. Clifford's statements[2] were made before the discovery of radium, the compounds of which are known to remain continuously at a higher temperature than the surrounding atmosphere, and the energy of which, stored in the atom, though not inexhaustible, is very great in quantity. It is conceivable at least, even if not demonstrable, that in organic matter, complex as it is, there may be a store of atomic energy which in the brain would constitute the will, or more generally the mind.

Clifford remarks that it is not right to say the mind is a force, "because if the mind were a force we should be able to perceive it". It is difficult to understand what he means by perceiving a force. We can perceive the effects of a force, the phenomena which follow a liberation of energy, and the teleologist maintains that he sees precisely such effects due to the action of the will. Clifford, on the other hand, while he accepts the existence of "mental facts" which accompany "physical facts," denies that either can in any way interfere

[1] See J. C. Bose, *Plant Response, Researches on Irritability of Plants.*

[2] His address, *Body and Mind*, from which we quote, was delivered in 1874.

with the other. It "is not untrue," he says, "but it is nonsense [to say] that the will influences matter". If, however, the will be a store of pseudo-radioactive or other kind of energy, the statement is by no means nonsense. Clifford uses the word influence to mean the action of matter upon matter. It hardly seems a valid argument to say that "the only thing which influences matter is the position of surrounding matter or the motion of surrounding matter," and that, therefore, mind cannot influence matter. The contention of the teleologist is that there is in the will just this immaterial thing, which we believe is a store of energy, which does influence matter. Indeed, in the study of radioactivity we seem to be brought face to face with an instance of matter, using the term in Clifford's sense, being influenced by the immaterial. The γ rays, which are looked upon as immaterial particles, have the power to ionise gases; that is, to break up molecules of the gas into parts charged respectively with positive and negative electricity. If this be true there seems no reason why volition may not be considered a similar phenomenon; and the discontinuity in the action of matter upon matter, the point at which energy is liberated, cannot be called a place "where physical causes do not apply".

To admit the possibility of discontinuity may, as Clifford says, "leave the way open for the doctrine of a destiny or a Providence outside of us," though not necessarily "overruling human efforts and guiding history to a foregone conclusion". Even if it do so the scientist should not fear to leave the way open for the entrance of possible truth in any form, and we may suspect here scientific prejudice as illiberal as the prejudices of teleological polemics. Perhaps if Clifford, instead of saying Providence or destiny, had been content to say merely that which is outside of us, he would have been more willing to leave the way of entrance open. Science, as well as religion, has its superstitions.

We are not, however, arguing for the existence of discontinuity in such phenomena; indeed, we believe the process to be strictly and physically continuous—but we cannot accept the theory of non-interfering mental and physical phenomena moving on "parallel planes". No more can we accept a discontinuity permitting the entrance into the sequence of events of a super-consciousness, whether this be purposive or unpurposive. We do not deny the super-consciousness; we simply deny the necessity thereof to the sequence of events in question.

II.

Whether "hard and heavy matter" be one day shown to be ether in motion; whether the atom be a whirl or vortex-ring producing a strain or tension in the ether; whether it be a sphere of positive electricity in which negative electrons revolve, or an infinitely minute, one-dimensional particle (*Hohlraum*) moving with the velocity of light—in any case the atom would seem to imply energy, and a material body to imply a store of energy. We believe the atom is energy, and that mass is energy or a store of energy due to motion. The idea of motion, of a store of energy, would seem to be essential to any theory of matter and the atom. To the theory and its essential idea add the facts of chemical affinity, of radio-activity and of electro-magnetism, and we venture to say that what is known as life, man's will, the will of organic matter—to say that life is stored up energy differing in degree, but not in kind, from other stored up energy, and that an act of the will is a setting free of a portion of this energy. The will would act according to mechanical laws, would be mechanistic, precisely as gravity, chemical action, and radio-activity are mechanistic; while these, on the other hand, would imply life, consciousness, just as the will implies life and consciousness.

Man performing an act of will is said to be conscious, while a stone performing an act of falling is said to be unconscious, but we believe the acts are the same in kind. The will acting in the brain of man, a liberation of energy, causes movement in the brain or possibly of the whole organism. Gravity acting in the atoms of the stone, a liberation of energy, causes movement of the stone. When one uses the term "conscious" one would seem to have in mind too exclusively the consciousness of man. If, step by step, beginning with man, we follow back the idea of consciousness through the higher animals to the lowest forms of organic existence, animal or plant, consciousness at every step being accompanied by stored up energy and liberation thereof—if we follow back this idea through complex chemical compounds, through radio-active substances, to the primitive ether whirl which possesses a store of energy, electro-magnetic or due to stress and strain—if, step by step, from the highest to the lowest we follow back the sequence, it may be doubted if at any point we should be able to say, on this side lies consciousness on that side unconsciousness; on this side the animate, on that side the inanimate. The vegetable world is organic. Is a plant conscious or unconscious?

There are organisms such that we are uncertain whether to classify them as animal or plant. Are they conscious or unconscious?

We are fully aware that it is a logical fallacy to say that because consciousness implies a liberation of energy, therefore a liberation of energy implies consciousness. That is not our argument. We contend that the descending scale of liberation of energy from man to lower animals, to plants, to radio-active substances, to chemically active substances, to inert substances, the last possessing at least the energy of gravitation, is nowhere delimited. If this liberation of energy be called consciousness in man, it should be so called throughout all the steps of its descent. We offer a categorical statement of the case as follows:—

1. All the scientifically tenable theories of the nature of the atom describe it as energy or motion. Mass, an assemblage of atoms, is a store of energy.

2. An act of will, from its observed effects or consequences, connotes an addition to the energy involved in a physico-mental-act. This does not, however, contradict the principle of the conservation of energy. A portion of the consciousness-energy has been transformed or transferred; the energy of the system remains the same.

3. This increment of energy is derived from the store of energy which constitutes the organism; is a liberation of stored up energy.

4. Consciousness is a term of wide connotation, embracing the knowledge of the Me as shown in divers forms from man to the lowest grades of animal and plant. It is impossible to fix its exact delimitation.

5. Consciousness has as concomitant the liberation of stored up energy.

6. There are instances in which stored up energy is liberated from inanimate or unconscious matter, so called; that is, liberated without external stimulus.

7. Of different radio-active substances some possess greater power than others to liberate energy, and in chemical reaction there is every gradation of energy liberating power from the most active to the most inert. At the bottom of the scale lies gravity-energy which can be liberated and which is possessed by every substance.

8. There is no delimitation to the degree of external stimulus which may accompany the act of liberation of energy from the consciousness of man to gravitation.

9. It would not seem erroneous, by reason of item 4, to call all cases of liberation of energy, with or without external

stimulus, voluntary acts or acts of will, and to call the synchronous state of the liberating body a state of consciousness.

10. Any body, any aggregate of atoms, which possesses the power voluntarily to liberate stored up energy is animate or conscious. Any aggregate of atoms which does not possess this power is dead.

11. Life is of varying intensity, and the individual is of greater or less complexity. There may be variations or fluctuations of consciousness or life (sleep and waking) in the individual; variations or changes of degree, and more or less permanent in character (chemical change).

12. By virtue of the possession of gravity all matter is living. Gravitation is the lowest and universal form of life, and no matter is absolutely dead. There is no absolute death in nature as we know it.

13. Inquiries into the origin of absolute life have no meaning, except in so far as they may be inquiries into the origin of the entire universe. Inquiries into the origin and characteristics of any particular form of relative life, as well as into the relations between the various forms, are the legitimate field of science.

III.

While the phenomena of consciousness, in our theory, are not separated from those of the physical world, still a distinction is made between subjective and objective phenomena. It has been pointed out that an act of will may be regarded as a liberation of energy; all subjective phenomena may be so regarded; every feeling is a liberation of stored up energy. On the other hand, every objective phenomenon of the physical world is a result of subjective phenomena, a result of liberations of energy. We cannot perceive feelings, or thoughts, or sentiments; we can perceive only their sequelæ which we call objective phenomena. We do not perceive the liberation of energy in a man's act of will or a stone's act of gravitation; we perceive the sequelæ.

On the table is a ball of which we shall disregard all the properties except colour. There is a subjective act, a voluntary liberation of energy, resulting in light falling upon the ball. The light is reflected to the eye and carried to the brain. There have intervened other liberations of energy, for of course it is not meant that the actual light is carried to the brain, but for simplicity we omit consideration of these others. Then in my brain there is a liberation of energy, and the colour of the ball is seen. The objective phenomenon, colour,

is the resultant, the sequela, of two subjective phenomena, two liberations of energy, one in the source of light, the other in my brain. Nor are we assuming two objective phenomena in the usual sense, brain and light-source, to explain one colour ; for they also are the resultants of antecedent or synchronous subjective acts.

The objective phenomenon colour may not be the same for you as for me. For you the colour is the resultant of the subjective acts of the source of light and *your* brain. The liberation of energy in our two brains may be different in degree, so that you see the colour green while I see it red. The same ray of light may fall upon the same ball, and pass to the eye and optic nerve of a third person whose optic ganglion has been atrophied or destroyed. In his brain there will be no liberation of energy, no subjective act, and for him there will be no objective phenomenon, no colour. But even if all three persons were absent the ball would reflect only rays of a definite wave length. The selective process at the surface of the ball, by which some wave lengths are absorbed, others reflected, may be a voluntary liberation of energy in the surface atoms, so that, possibly the ball may be said to have absolute colour ; but even in this case the objective phenomenon is the sequela of at least two subjective acts. If on the other hand the liberation of energy in the light source were such that only those wave lengths absorbed by the ball were sent out, there would be no objective phenomenon, no colour either relative or absolute.

We may next imagine a being, an aggregate of atoms, of any degree of sentience, performing a subjective act for the first time, for the first time liberating stored up energy. The subjective act is followed, let us say, by an objective phenomenon. A second subjective act is performed, a third, and so on indefinitely. The second and following acts may or may not be performed with greater ease than those preceding, but there would seem to be, in general, an increase in facility, or at least no decrease. Greater ease of performance might be called habit or incipient habit, leading with still greater ease of performance to confirmed habit or memory. Thus habit and memory are the results of subjective acts, and may be called subjective states. In the aggregate of atoms objective phenomena, movements, would often accompany the subjective acts, and thus more or less definite habits of body might be formed. There may be a distinction also between ancestral habit and memory, and those of the individual, the former resulting in instinct; though there would be no sharp line of division between the two types.

The beating of the heart, for example, may be a habit resulting from ancestral liberations of energy extending from gastraea to man.

Repetitions of a definite subjective act give rise to a definite memory. Repetitions of many and varied subjective acts, accompanied in general by corresponding objective phenomena, constitute the subjective state, general or absolute memory. Absolute memory is consciousness, and is not, it must be borne in mind, an attribute of so-called living beings only, but is an attribute in greater or less complexity and degree of all things. Absolute memory is the resultant of all individual, ancestral, and ur-ancestral voluntary liberations of stored up energy, and in it are involved three fundamental concepts, space, time, and causation.

Time and space are subjective, not objective. My space and time may be very unlike your space and time; man's space and time are not the space and time of the amœba. The subjective acts which have given rise to absolute memory and the objective phenomena which, in general, accompanied the subjective acts were a succession of events. This is time. Moreover, the subjective acts which have given rise to absolute memory and the corresponding objective phenomena were in many cases simultaneous, not successive, events. This is space. Time and space are subjective states arising from sequence and simultaneity of subjective phenomena. We do not say that space is infinite, that time is eternal. Synchronism and sequence of subjective phenomena do not, it is true, connote a beginning or an end, and, therefore, absolute memory cannot say that space is limited or that time is finite. On the other hand, to the question whether space is absolutely infinite, time absolutely eternal, it can only reply *ignoramus*.

The third component of absolute memory is causation. The subjective acts which give rise to absolute memory possess a third attribute, order. Subjective act A precedes subjective act B, subjective act B follows subjective act A, in the ancestral as well as in the individual act. This constitutes order, the causation of absolute memory. We give causation no teleological significance, it is not *a priori* truth. My causation, my cause and effect, may not be identical with yours. Man's causation is not that of the amœba. Causation is not the same for man to-day as it was a century ago, and need not be the same to-morrow as it is to-day, for other subjective acts may come to be recognised as forming an integral part of any given order.

With this conception of time, space, and causation as the

basic content of absolute memory; with the conception of absolute memory as the resultant of ceaseless and innumerable individual and ancestral liberations of energy; with the conception that these characteristics belong, not to man alone, but to all things—with these conceptions we cannot believe that human life, or amœban life, or even atomic life in its lowest form can be called empty and vain; nor that a time and space which are the resultant of acts of living, of liberations of energy, can be thought of as "that in which all things pass away". No more can we believe, with Mr. Bertrand Russell, that "brief and powerless is man's life; on him and all his race the slow, sure doom falls pitiless and dark [while] omnipotent matter rolls on its relentless way". For man is, as are all things else, a part of this omnipotent matter, this energy, in which "we live and move and have our being". For man, as for all things else, there is change, there is evolution or Becoming; but for man and for all things there is also Being, the Continuity of Becoming.

IV.

We have based our system upon one fundamental idea, the liberation of stored up energy. We have not, however, made any attempt to define energy, nor shall we do so. In this respect, we contend, our system is no weaker than any other. The teleologist bases his system upon a more or less anthropomorphic deity; the materialist bases his upon matter, or upon matter and motion. The *a priori*, it would seem, must underlie any system, and our *a priori* assumption—or fact, if you will—is energy, the common attribute of all things. It may be true, with modifications it probably is true, that the laws of motion, the principles of mechanics are the generalised and formalised statement of the nature of energy, of the nature of life. In this respect our universe is mechanistic. But we have said with modifications, for our generalised and formalised statement is, beyond a doubt, partial and incomplete. Whether it shall be found when our statement has become full and complete—if it ever so become—that energy is one and unchangeable we do not know. We are led to believe, however, that energy is one and unchangeable. This is not a teleological hope—or fear—it is not an act of faith, for we believe it is based upon evidence.

Science recognises transformations or transferences of energy, and it is true that ours is a universe of becoming, of liberations of stored up energy; but back of, deeper than all becoming lies being. All things are, as well as all things

become. Being is the continuity of becoming, and it is this that we consider evidential of the unity and unchangeableness of energy.

Being, continuity of becoming, in an aggregate of atoms is individuality, is the ego. In this sense the solar system is an individual composed of other individuals. Man is an individual composed of other individuals, the body cells, each having the attribute continuity of becoming. Discontinuity of becoming means partial death or individual death, but this, as we have pointed out, is not absolute death. Man does not die because a constituent cell has died; the earth does not die because a constituent aggregate of atoms has died; the solar system does not die because a constituent world has died.

When two pieces of iron are welded together, or when copper and zinc are fused, there arises a new individual. When ovum and spermatozoon unite there arises a new individual. Upon cell cleavage, or the division of an amœba, a new individual arises. The new individual may differ in its characteristics in varying degree from the individuals which produce it. In the case of the welded iron, in the case of the fused copper and zinc, in the case of the ovum-spermatozoon union, an external agent, an external store of energy, brought about the production, the birth, of the new individual. When a cell, when an amœba divides, when a radium salt disintegrates, when aphis produces aphis asexually, new individuals arise, are born, without the agency of external stores of energy;[1] new individuals in varying degree like or unlike those from which they arose. The birth of new individuals is not a uniform process in either the animate or inanimate worlds so called, but in both these realms similar diverse processes prevail. There is no inanimate, as we have said, but a rising sequence of life from the mere possession of gravity to the complexity of man, while through the whole sequence there runs the continuity of becoming.

Continuity of becoming would seem to be implied by the phenomena of becoming, by evolution which deals with becoming, or better which is a generalised and systematised statement of the observed facts of becoming. Evolution makes no statement as to the continuity of becoming except in so far as the particular implies the general. Continuity is the common characteristic of all the observed phenomena

[1] This whole matter is relative. Man brings about the union of ovum and spermatozoon, but also spermatozoon actively seeks out ovum. Parthenogenesis in the aphis appears to be contingent upon external heat and light.

of becoming. To argue from becoming in our universe to continuity of becoming does not necessitate arguing from continuity of becoming to the becoming of our universe. All A is B does not imply that all B is A. It follows, therefore, that continuity of becoming still remains even if the interpretation of becoming in our universe, our theory of evolution, be wholly or partly false.

Upon this basis alone rests any mathematical conception of space. The concept of space, arisen from simultaneity of subjective acts ancestral and individual, and practically the same for all men, is three-dimensional and Euclidean. Continuity of becoming may, however, include n-dimensional and Riemannian space. But to argue from this possibility to the possibility that ours is an n-dimensional or a Riemannian space and to believe that it actually is so is an attitude of mind which has been well named mystical.[1] We do not wish to be misunderstood. Our space, the resultant of subjective acts, is three-dimensional and Euclidean. A thousand years from now, fifty years from now, it may be four-dimensional or non-Euclidean. Indeed, if the mathematician assert that his space is now four-dimensional we cannot deny it, though we may be permitted to doubt and to suspect that there has been transferred to science a characteristic of religious belief—mysticism.

Whether we shall call continuity of becoming God or the divine we shall not offer to suggest, for as Bacon says, "It were better to have no opinion of God at all, than such an opinion as is unworthy of Him; for the one is unbelief, the other is contumely". If there be an omnipotent, supreme divinity, identical with or superior to continuity of becoming, it is as independent of mechanistic or scientific argument as it is of teleological and anthropomorphic misrepresentation. The religious instinct is a fact of man's life, is a component of absolute memory, precisely as are the æsthetic instinct, the philosophic and the scientific. Indeed, these instincts —the word seems appropriate enough—are not wholly independent of each other, could not be so if absolute memory be what we consider it to be. It follows, of course, from our conceptions that religion is a growth, an evolution; that it is so is now generally conceded on other grounds and without reference to its origins. As has been said, religions are "the infinitely curious products of man's imagination and of man's reason in its infancy";[2] and we would add in its maturity. Moreover, if the pietist declare that his religion

[1] *Mysticism in Modern Mathematics*, by Hastings Berkeley.
[2] *Orpheus: A General History of Religions*, by Salomon Reinach.

is revealed we cannot, with our conception of absolute memory, deny that it is so, any more than we can deny the four-dimensionality of the mathematician's space. But in this case also we may be permitted to doubt without, it is hoped, engendering denunciation and invective.

We describe our system as one of idealistic dualism, but the dualism is not teleological in either the broader or the narrower sense. We have assumed an unknown energy and an unknown ether. If energy or mass (the terms are synonymous) be regarded as "non-matter in motion," we believe there is still dualism in the two conceptions motion and non-matter. The conception non-matter either implies its opposite, matter, or is itself a direct conception which might be called as well matter as non-matter. If, however, we make but the one assumption of energy, or motion, non-matter being absolute emptiness, vacuity, we venture to assert that vacuity is a conception impossible to man's absolute memory. If energy be electro-magnetic, a system based upon positive and negative electricity would be dualistic. If positive electricity be simply a mobile arrangement of negative electrons, we still have the negative electron and its motion; unless we assume motion together with vacuity. Granting the possibility of the conception vacuity in motion, we still have the conceptual dualism of Becoming and Continuity of Becoming.

V.

In general the principles of the theory of relativity are consonant with our system, but some of the conclusions of that theory appear to us to be false. If space and time be, as we have stated, conceptions of simultaneity and sequence of subjective acts, of liberations of energy, it would appear to follow logically that space and time are not independent, and that the laws of their dependence can be mathematically expressed; but the sequence of subjective acts (time) need not, does not, add a fourth dimension to simultaneity of subjective acts, man's space. Nor does it militate against our system that in order to express this dependence a system of non-Euclidean, four-dimensional geometry may be used. This is merely a convenient, though not necessary, mathematical device to express the relations between space and time, and only "mystically" can it be said that space has more than three dimensions. On the other hand, man's present interpretation of phenomena is doubtless incomplete, and the progress of becoming, evolution, may in the future

give rise to a space-time-causation conception in absolute memory very different from that of the present.

The conclusion reached by the relativity theory that the mass of a body is equal to the energy is in agreement with our assumptions concerning energy, and the assumption that absolute mass, that is, mass determined by a person at rest relatively to the body, is known, would seem to be but another way of leaving energy undefined. Possibly absolute mass may be regarded as the energy of a body at rest in free space, free space being absolute simultaneity, simultaneity without sequence of subjective acts in the universe. We fear the idea is inconceivable; space without time. Absolute mass, as we shall presently point out, need not be constant. Its value might perhaps be a maximum under the conditions just adverted to, of rest in free space, and a minimum if the entire cosmos were in motion with the velocity of light. The analogy of the two assumptions of absolute rest and absolute motion, as we may call them, is obvious.

On the other hand, the conclusion that "there is no such thing as the absolute simultaneity of events happening at different places,"[1] seems to be falsely drawn. The statement is based upon the proof that if an observer on a system S has two clocks which mark simultaneity for him, the clocks will not appear simultaneous to an observer on another system S′ moving with a velocity v relative to S. But the clocks, it may be remarked, are simultaneous to S and could be made simultaneous to S′, so that both observers have an identical conception of absolute, that is, exact simultaneity. Moreover, all observers would have the same conception of exact simultaneity, a conception which is not vitiated by the impossibility of identical measurement. The sequence and simultaneity of subjective acts and their concomitant objective phenomena are independent of the possibility of absolute measurement of the interval between two events, and independent also of the length and uniformity of the interval.

Man's first clock ticked at sunrise and at sunset, and the unit of time was variable. If we hear a clock chime the hours and quarters the unit is shorter and less variable; still shorter if we listen to the ticking of a clock or watch. We see a man walking in discontinuous steps; we know that there is an interval between two events in cinematograph pictures, although the discontinuity is not perceptible.

[1] *The Theory of Relativity*, by Robert D. Carmichael. See also H. Poincaré, *La Valeur de la Science*. The word absolute has not the same meaning here as in the phrase absolute simultaneity of the preceding paragraph.

Whether the discontinuity lie primarily in the subjective acts, liberations of energy, or in the objective phenomena, in either case from discontinuity of subjective acts, at intervals as small as we please, we arrive by induction at the conception of the continuity of time, let us say of psychological time. Sequence of the objective phenomena which accompany subjective acts may be called physiological time, and is capable of measurement. Even if physiological time be discontinuous and incapable of absolute measurement by an exact and invariable unit, the conception of the continuity of psychological time, and the conception of simultaneity of events are not affected.

To one other conclusion which is sometimes drawn by relativists we are disposed to take some exception. Relativity derives the following formula for l, the longitudinal mass, that is, mass in the direction of motion, of a body moving with a velocity v with respect to a system S,

$$l = \frac{m}{\left(1 - \frac{v^2}{c^2}\right)^{3/2}};$$

where c is the velocity of light, and m the absolute mass of the body. From this formula, or law, the conclusion is drawn that as v approaches the limit c the longitudinal mass approaches infinity, and that, therefore, an infinite force would be required to give a material body the velocity of light. This statement assumes that m, the absolute mass, even if not constant, has always a finite value and continues finite as v approaches c as a limit. But there are cases in which the absolute mass of a body does not remain constant,[1] and it may possibly be true that, as the velocity of a body approaches the velocity of light, the absolute mass of the body approaches zero.

The case in question is when there is impact between two particles which are not perfectly elastic and which, therefore, remain together. The sum of the absolute masses (energy) in these circumstances "would be increased by the heat (or mass) produced by the impact and obtained from the 'kinetic energy' of the relative motion".[2] It is conceivable that a body acquiring a velocity equal to that of light would have its absolute mass decreased by the heat required to separate its particles; heat given back to the "kinetic energy of the rela-

[1] E. B. Wilson and G. N. Lewis, *The Space-Time Manifold of Relativity.*

[2] Wilson and Lewis, *loc. cit.*

tive motion". That is to say, there would be a sort of reversal of impact, a tearing apart of the particles of the body, with a corresponding decrease of absolute mass; and in the case of the extreme velocity of light the disruption would be so great as to make the absolute mass infinitely small. Light is, so to speak, the apotheosis of mass or energy. A body moving with the velocity of light would become light, and its absolute mass would be zero. The longitudinal mass (energy) would in that case take the indeterminate form $l = \frac{0}{0}$, which might have, mathematically, any value whatever, and physically, a value to be otherwise determined.

If, however, the absolute mass of a body moving with the velocity of light be not zero but a finite number, it seems worth while to point out that very great velocities may be reached without increasing the longitudinal mass by an enormous amount. If the velocity of the body be nine-tenths the velocity of light, the longitudinal mass becomes about twelve times the absolute mass; if v be ninety-nine one hundredths the velocity of light, the longitudinal mass becomes about 360 times the absolute mass. Thus v must increase from 0 to about 170,000 in order that l should increase from m to $12m$.

We may imagine a nebula in space as being nearly pure light-energy, moving with a velocity very nearly that of light. Its absolute mass might be infinitesimal or finite, and its longitudinal mass, perhaps, infinitesimal also; perhaps infinite. As the velocity of the nebula decreased its absolute mass (energy) would increase, and its longitudinal mass would decrease; until, the velocity having reached the ordinary range of our observations, the nebula would become ordinary mass (energy), a star, that is, a sun, a "dark body," to be again transformed into pure light by some cataclysm. Thus the universe goes on in involution and evolution of energy, while beneath all runs the steady current of continuity of becoming.

To summarise our system we may say, the atom is energy and mass is a store of energy. Energy is life, and to live is to liberate stored up energy, the liberation of energy being a subjective act. Two or more subjective acts give rise to an objective phenomenon. All things are living, the lowest form of life being gravitation. Repeated liberations of energy, ancestral and individual, form or constitute habit, memory and absolute memory, or consciousness, of which the fundamental concepts are space, simultaneity of subjective acts; time, sequence of subjective acts; and causation, order of

subjective acts. Liberation of energy in time, space, and causation is becoming, or evolution ; the common characteristic of all phenomena of becoming is continuity. Continuity of becoming in an aggregate of atoms constitutes the individual. The individual may die, but absolute death is not. We do not define energy, we do not explain life; but also we do not personify these ideas. To us they are neither occult nor mystical, but natural, for they are "nature". Mysterious they may be, mysterious and wonderful as all is mysterious and wonderful. Perhaps, however, it is not too much to say that the fullness of life gives us hope that the fullness of time may give knowledge.

IV.—WILLIAM OF OCKHAM ON CONTINUITY.

By C. Delisle Burns.

The work of William of Ockham on Continuity and Infinite Divisibility does not contain any statements of philosophical importance which are unknown to us now: but it is at least historically interesting, in view of the fact that it was done in the early fourteenth century. And there are interesting parallels to be found between the ideas of Ockham and Mr. Bertrand Russell: sometimes there is even a close likeness between the actual sentences of the ninth question in the first book of Ockham's *Quotlibeta* and those in Mr. Russell's *Our Knowledge of the External World*. I shall attempt to give, without much commentary, a short summary of Ockham's treatment of continuity. The problem for him arises in that of the infinite divisibility of space: but he gives the clearest indications that the conceptions he uses are valid also for time, and he seems to imply that they are valid for all forms of continuity.

Two sentences are specially interesting, that in which Ockham declares it impossible for those who do not admit infinite divisibility to reply to Zeno's argument about Achilles, and that in which he distinguishes "compact series" from "things juxtaposed". The whole of his treatment of continuity is based upon the idea that there is always a third point between any two in a line or that there is not a "certain number" of units in a continuity. In the reply to objections there is a hint at a theory of sense-data in continuous visions which seems important: for Ockham seems to regard the conception of the true continuum (compact series) as a sufficient explanation of change. As for his method, the whole *quæstio* fills six columns of print in the edition of 1491. We must therefore allow for the abruptness and apparent neglect of detailed proof: for we have not here what Ockham would have said in his lectures, but only a summary of his theory. He begins with mathematical proofs of the infinite number of points in a line, and then proceeds to deal with the Achilles argument of Zeno.

Then follow replies to objections. The whole is very abruptly stated and the proofs of his statements are sometimes rather indicated than expressed. In some places the contractions in the text are so obscure that it is uncertain whether we have the exact wording.

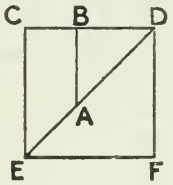
The general result of this *quæstio* will be seen to be in harmony with the realism (in the modern sense of the word) of Ockham's theory of the individual. It has a close connexion with his treatment of "magnitude" in the *De Sacramento Altaris* and his treatment of "the infinite regress" at the beginning of the *Centiloquium Theologicum*. But here I shall attempt only a summary of the *quæstio* in the *Quotlibeta*, "Utrum linea componatur ex punctis".

After a preliminary indication, in the form of a proof, that the line does consist of points, followed by the remark that Aristotle (VI. Physicorum) is opposed to this opinion, Ockham indicates that the real problem cannot be solved if it is phrased thus. The treatment of Aristotle as an authority may be compared with Ockham's sentence in the *Commentary on the Sentences*—"quicquid de hac re dicit Aristoteles non curo," which gives one an unconventional view of the mediæval treatment of "the philosopher". There were at least some in the fourteenth century who would not be put off by having a great name quoted against them. As for the problem of line and points, Ockham sees that the real issue is concerned with the sense in which the line may be said to consist or be made up of anything.

He proceeds, therefore: "Here we must first express the true meaning of the problem, which is this: whether any parts of a line are indivisible: and if such be the meaning, I say that *no part of the line is indivisible, nor is any part of any continuum indivisible*".[1] The point is not, then, a minimum length, or the number of points in a line is infinite. Ockham's words continue thus—"This is proved as follows. If any part were indivisible (or if there were a finite number of points in the line), then the side of a square would be equal to its diagonal; and therefore the diagonal would be commensurable with the side. The consequence is clear; for, from every point in the diagonal a line may be drawn at right angles to the side. This follows from the fact that a line can be drawn from every point in one of the sides at right angles to (every point in) the other side.

[1] Hic primo dandus est intellectus quæstionis, qui est iste: utrum aliquæ partes lineæ sint indivisibiles. Et sic intellecta quæstione, dico quod nulla pars lineæ est indivisibilis, nec etiam pars quæcunque cuiuscunque continui est indivisibilis.

Indeed on the above hypothesis there *is* such (a line). And every such line is drawn through a point in the diagonal. Therefore from every point in the diagonal there is a line at right angles to the side.[1] If, therefore, there are six points in the diagonal there must be six in the side." The conclusion is that there is no indivisible in the line, or that a point is not a minimum length. The proof consists of two parts: (*a*) If the points in CD and EF, opposite sides of a square, are not infinite, then from every one point in CD let a line be drawn at right angles to every point in EF (the number being equal): then ED contains the *same number* of



points. But if it be said that there may be a point A in the diagonal ED through which *no* line from CD to EF passes, then (*b*) let a line AB be drawn at right angles to CD from the point A. If B is *not* a point from which a line has been already drawn to EF, then we have not done what we supposed in (*a*), and if it *is*, then the line AB is the same as one line of the many from CD to EF, since all lines at right angles to CD must be parallel.[2]

Secondly, says Ockham, if points were minimum lengths then "there would be the same number of points in a greater as in a smaller circle. For from any point in the greater circle a straight line may be drawn to the common centre of both. Indeed there *is* such a line, if the hypothesis (of points in the circle) is correct. And these lines do not meet except in the centre. Therefore, either two lines drawn from two points next one another (immediate) in the greater circle will pass through *two* points in the smaller circle or through *one*. If the former, the proposition is proved; for then there

[1] I give the original in case a better translation may make it seem less abrupt. "A quolibet puncto diametri ad costam contingit protrahere rectam lineam. Quod probatur quia a quolibet puncto costæ unius ad quodlibet punctum costæ alterius contingit protrahere rectam lineam. Immo ita esset de facto posita ypotasi. Et quælibet talis linea protrahitur per aliquod punctum diametri. Ergo a quolibet puncto diametri ad costam est aliquis linea recta."

[2] I owe to the assistance of Prof. Percy Nunn my restatement of Ockham, but of course this does not make him responsible for the cumbrous manner I have used.

are as many points in the smaller circle as there are in the greater. If the latter, then these lines never meet again." The last sentence in the Latin is obscure, but that is obviously the meaning. Further proofs are given by increasing the number of concentric circles. The conclusion that the point is not a minimum length, or that the number of points in a line is *infinite*, is stated; and then Ockham remarks: "But it does not follow from the difference of these lines and these circles *in infinity* (of points) that there is no part in the greater which has no distinct part in the smaller corresponding to it".

The problem is then made more general by the introduction of Zeno's argument concerning Achilles, which is abruptly stated as "that the swiftest mover will never catch up the slowest" (argumentum Zenonis secundum quod mobile velocissimum nunquam attingeret mobile tardissimum). "This argument implies certain presuppositions," says Ockham. "The first is that always the nearer part of space is reached before the farther. The second is that *indivisible* space is not reached except in an instant."[1] "From both which it also follows that no body, if it is moved through such space, would reach in one instant anything but one *indivisible* (part of) space. I then argue thus" . . . and there follows the argument that Zeno's proof depends on supposing that there is a one-one correspondence between indivisible units of space and indivisible units of time. "And if you say that it holds also against those who suppose the continuum to be infinitely divisible, I reply: there is no part of space which is *first* reached in the moment, so that any part (of this part) is covered in that moment. And on this supposition Zeno's argument does *not* hold against those who deny indivisibles as it does against those who believe in them. . . . But, of course, I grant that in any instant some distance is covered, and then a part of it was covered before, and a part of that before, and so on *infinitely*: and so the swift overtakes the slow over the same distance by infinite moments." Then comes the abrupt statement—"he who denies indivisibles can solve Zeno's puzzle, and he who supposes indivisibles can not". The positive part of Ockham's thesis ends with the remark that the conception of infinity will solve all problems arising from change.

Next follow replies to objections. These objections are not fully stated, but are left to be implied in the phraseology of the reply. Some are peculiarly mediæval but not, I

[1] Or "the nearer part is *covered*," . . . "indivisible space is *covered*". See text at the end of this article.

think, entirely without modern parallels. They run thus: first, there are indivisibles; for what about the soul? To which Ockham replies: "I am not referring to what is not quantitative". Secondly, it is said that God could make a sphere commensurable with a plane tangential to it. Ockham replies that he could not. Thirdly, against what objection is not quite clear, he says: "We must distinguish the continuum (compact series) from things juxtaposed".[1] Fourthly, it is asked whether the whole is greater than its part; and Ockham replies: "That depends what you mean by greater. For if you mean that the whole contains a certain definite number of parts more than *the* part, it is not true. But if you mean that both part and whole may be infinitely divided and yet may be commensurable, then the whole is (in infinite divisibility) greater than the part." Fifthly, it is said that according to Ockham if God had been dividing from the beginning of the world he would still be at it. Ockham admits the idea and refuses to view it as absurd (non esset adhuc completa divisio). A sixth objection refers to conventional lengths such as a yard, which is obviously frivolous. A seventh refers to the Immaculate Conception of the Virgin Mary, which to modern ears may have little indeed to do with infinite divisibility: but Ockham asserts that she never was in Original Sin in any part of an instant. To an eighth implied objection he replies that God could not make an angel pass from one point to another without passing through infinite points between.

Ninthly, as to sense-data, "as the shape of an object is continuously increased (? by coming nearer and nearer), so the visions of white succeed one another *continuously*, and as we need not suppose indivisible units of change, so we need not suppose indivisible units of vision". That is to say, as I understand him, there is always a sense-datum perceivable between (in time) the first perceived and any other. This is (1) the reply to Bergson's objection against the "cinematograph" idea of vision, and (2) it gives the distinction between the cinema-pictures and actual human vision. For there are *not a certain number* of visions of white or of shapes perceived in change.

Finally, Ockham replies to the general question whether a line consists of points. He says a fallacy is involved in the implied argument: and to this he answers that (1) between the first point and any other there is always a third, but that (2) not *any* point lies between the first and any other (*i.e.* as

[1] Hæc est differentia inter continuum et contiguum quod partes continui faciunt unum per se, partes contigui non.

I understand him,—there is no *second* point in the line, but there is a first).

It is perhaps possible, even from this short *quæstio*, to see why Ockham was known as the "Venerabilis Inceptor". He seems to have had in his philosophy all the prestige of tradition and all the promise of a new beginning.

EXTRACTS FROM THE TEXT OF OCKHAM.

On Zeno :—

. . . Si stat argumentum Zenonis secundum quod mobile velocissimum nunquam attingeret mobile tardissimum. Ista ratio supponit aliqua fundamenta. Unum est quod semper pars propinquior spatii prius attingitur quam remotior. Aliud est quod indivisibile spatium non attingitur nisi in instanti. Ex quibus etiam sequitur quod nullum corpus si moveretur super tale spatium attingeret in instanti nisi unum individuum in spatio. Tunc arguo sic: In instanti in quo acquirit tardum unum indivisibile in spatio quæro quid acquirit velox : aut solum unum indivisibile, et tunc velox nunquam attingeret tardum ; aut acquirit duo indivisibilia, et per consequens per secundam suppositionem prius acquirit unum quam aliud, ergo non acquirit in instanti quia in isto non est prius.

Si vero dicis quod istæ passiones velocitas et tarditas non conveniunt motui alicuius indivisibilis, contra idem arguo per omnia, (?) si corpus divisibile moveatur super (?) spatio composito ex indivisibilibus.

Et si dicis quod illud argumentum Zenonis videtur c.te esse ponendo continuum componi ex semper divisibilibus, dico quod in quolibet instanti est mobile in alio et alio spatio, sed non est dare aliquam partem spatii quæ sit primo acquisita in instanti ita quod quælibet eius pars acquiratur in isto instanti. Et si hoc poneretur, non concludet argumentum Zenonis contra negantes indivisibilia sicut contra ponentes. Quod patet quia in illo instanti in quo iam tardum aliquas partes spatii acquisivit secundum (?) se totum, aut velox acquiret aequalem partem, et tunc nunquam attingeret tardum, aut acquiret maiorem, et tunc per suppositionem prius acquirit unam partem illius quam aliam, et per consequens non acquirit in instanti. Et ideo dico quod in instanti non acquiritur aliqua pars nec loci nec alterius formæ per alium modum (?) secundum se totam, ita quod quælibet pars acquiratur in isto instanti. Sed concedo quod in quolibet instanti aliquid acquiritur et tunc pars illius acquisita fuit prius acquisita et pars illius prius et sic in infinitum. Et sic mobile tardum præcedit velox in isto spatio per infinita instantia. Patet manifeste. Unum (?) impossibile est dare aliquid primo acquisitum in instanti per quemcunque modum. Sed quodcunque acquiritur in tempore acquiritur. Et quæcunque pars eius in tempore acquiritur. Et ideo dico quod velox in eodum tempore plures partes eiusdem quantitatis spatii pertransit quam tardum : immo negans indivisibilia potest argumenta Zenonis solvere, et nullo modo ponens ea. Ista solutio est generalis ad omnia argumenta quæ fiunt de formis acquisitis per motum.

Is the whole greater than the part ?

Dico quod hæc propositio totum habet partes plures quam pars potest dupliciter intelligi : uno modo quod pars habeat aliquem certum numerum partium et quod partes totius excedunt in aliqua certa multitudine. Et ille intellectus est falsus: quia implicatur quod totum et pars habeant aliquam certum numerum, quod falsus est. Alio modo quod pars totius habeat partes non tot in aliquo certo numero quam plures, quia infinitas,

et quod totum habeat tot partes et adhuc aliquas alias. Et sic concedo quod totum celum habeat plures partes quam pars.

Sense-data :—

Ad aliud dico quod visiones albedinis sibi succedunt continue, sicut forma continue augetur. Et ita sicut propter motum augmentationis non oportet ponere talia indivisibilia ita nec propter visiones.

General reply :—

Ad principale dico quod solvendum est per fallacia figuræ dictionis : quia hæc est concedenda—inter primum punctum et quodlibet aliud est aliquid punctus medius ; sed hæc est neganda—aliquis punctus est medius inter primum et quodlibet aliud.

V.—DISCUSSIONS.

THE ARGUMENT *A FORTIORI*.

WHENEVER logicians can be induced to think about their science they speedily contrive to show that a logical question has at least as many sides as there are logicians contemplating it. This and the fact that certain deserving sides of their question seem so far to have escaped the notice both of Dr. Mercier and of Mr. Pickard-Cambridge may serve as my apology for participating in the interesting little discussion about the arguments *a fortiori* in which they are engaged.[1] If I am lucky I may not only succeed in illustrating the many-sidedness of logical questions, but also in inducing them to compose their differences, and even in contributing to a more precise use of terms than has hitherto prevailed in Formal Logic.

As the matter stands it appears to me that effective discussion is rendered almost impossible by the vagueness and ambiguity of the notions of 'validity,' 'purpose of the argument,' and 'proof': they mean different things to different writers and are used more or less loosely by all. Let us begin therefore by inquiring how strictly the notion of a valid 'form' is to be taken.

(1) If it is taken quite strictly, the validity of arguments *a fortiori* must certainly be denied. No argument which is not in syllogistic form can be formally valid, and indeed even the syllogism is open to attack on the ground that it is not an adequate example of formal validity. For, as Mr. Alfred Sidgwick has shown, two true premisses validly combined in a syllogistic form may yet conduct to a conclusion which is in fact false, and so defeats the doctrine that a conclusion is necessarily true if it has true premisses and a 'valid' form. Arguments *a fortiori*, may indeed be *true* at any rate, but they cannot possibly be *valid* in the sense that their form guarantees actual truth to their conclusion: when they are true, their truth is 'material' and not 'formal,' *i.e.* it depends on the actual nature of the relation to which the reasoning appeals. This strict logical standpoint should not be overlooked, even though it is not as fashionable as it was and though Dr. Mercier and Mr. Pickard-Cambridge seem to agree in rejecting it.

(2) Both, having thus departed from the narrow path of orthodoxy, apply the term 'validity' to *material* implications. Of these

[1] In No. 96.

there are plenty, if one's standard of 'proof' is not too exacting, and if familiar reasonings based on a knowledge of these relations are therefore said to be 'proved'. Dr. Mercier goes further still. He is willing to allow a reference also to the 'purpose' of the argument, nay to insist on it, and to make 'validity' contingent upon that. To this, however, Mr. Pickard-Cambridge demurs, and he endeavours to show that while dependence upon a 'material' relation should not be held to detract from formal 'validity,' dependence upon purpose should. I venture to doubt whether either position is tenable. To a strict formal logician, if any such survives, both Dr. Mercier's position and Mr. Pickard-Cambridge's would be anathema; but without advocating such an excess of logical asceticism one may well summon both these gentlemen to reflect whether they have not entered on a primrose path of reasoning on which they will not find any logical stopping-place short of a complete denial of the old notion of formal validity.

To render them aware of their danger, it must first be pointed out to them that the illustrations they have been discussing are not real reasonings at all, but merely verbal forms in which various real reasonings may be expressed. In Mr. Russell's terminology, they are 'propositional functions,' to the terms of which values must be assigned, before we can get a judgment which can be true, or false. In my own, they are forms-for-meaning, but as yet their meaning is potential and they actually mean nothing. In the terminology of Formal Logic, they are all 'ambiguous,' and the question of what they *mean* has to be settled before we can say whether they are true or false.

In point of fact it is not very difficult in any of these cases to suggest senses in which the conclusion drawn would be true, and others in which it would be false, although in both cases the premisses *per se* may be true. For example, when we argue *A is greater than B, and B is greater than C ∴ A is greater than C*, it is tacitly assumed that these differences in magnitude are themselves of a sensible magnitude and relevant to the context of the actual argument. But if A were only microscopically larger than B and B than C, and if these differences were negligible, it would not actually be true that A was *greater* than C. For the purpose in hand it would be truer to say that A was *equal* to C.[1] Again there are many contexts in which the adage πλέον ἥμισυ παντός holds, and the half is greater than the whole. It is more *e.g.* to offer a woman your hand than your arm. Allowing therefore for the possibility of uses in which the conclusion 'A is greater than C' is false, though its premisses are separately and for other purposes true, how can one properly maintain that the

[1] We should probably say they were 'practically' equal, and so illustrate a 'theoretical' use of 'practical' which may be brought, respectfully, to the notice of those who insist on having an absolute chasm between 'theory' and 'practice'.

conclusion is necessarily drawn from the premisses? Surely the form of the reasoning is not as such either valid or invalid, though it admits both of the truth and of the falsity of the conclusions drawn in different contexts.[1]

What then is the difference between the 'valid' and the 'invalid' forms? Chiefly that in the former case we are more prone to think of uses in which the conclusion as stated is true, while in the latter we think more readily of cases in which the conclusion is false, and find it harder to conceive the conditions under which it would correctly follow. But this difference is surely psychological and not logical, and it is quite possible to imagine conditions in which 'valid' inferences could be drawn from what would ordinarily be called 'invalid' forms.

Let us examine therefore the specimens of forms which Mr. Pickard-Cambridge regards as inherently 'invalid'; we shall find that they yield valid enough conclusions in certain cases. If in 'A is next to B and B is next to C' we presuppose the ordinary reference to lateral proximity we cannot indeed infer that 'A is next to C'; but we can successfully infer that 'A is next but one to C,' as Dr. Mercier contends. Nor is it clear how Mr. Pickard-Cambridge can deny the 'validity' of this inference. For it follows from the (material) relation of the spatial 'universal' assumed, and neither he nor Dr. Mercier has argued that the relation must be syllogistic. But of course the premisses need not assume this universal nor aim at describing a laterally linear relation, and, as Mr. Shelton pointed out (p. 528), 'next' is ambiguous, and if we are putting marbles together we may arrange them triangularly, so that the conclusion 'A is next to C' is true, because 'A is next to B and B is next to C'. Or again, from the point of view of a popular actress contemplating from the stage three of her admirers in the stalls, it may be quite natural to describe them as sitting 'C by himself in the front row, with A and B next (behind) him'. 'Nextness' would then be determined in the line of sight. Similarly I would proffer as a valid inference in the form 'A cheats B, B cheats C ∴ A cheats C,' 'the Armenian cheats the Jew, the Jew cheats the Scotchman, so of course the Armenian cheats the Scotchman'; this seems fully as 'valid' as any of these arguments *a fortiori*.

We get then this result: the general 'validity' of a form is no protection against the falsity of a conclusion drawn in it in special cases, the general invalidity of a form is no bar to the 'validity' of a conclusion drawn in it in special cases. There is no 'necessary connexion' therefore between validity of form and actual truth. This result is surely utterly subversive of the whole traditional 'ideal' of a 'valid form,' and no one who retains any respect for

[1] I have elsewhere shown that the syllogistic form itself appears to suffer from the same defect. Cf. my article in No. 89 on *Aristotle's Refutation of Aristotelian Logic* and *Formal Logic*, ch. xvi. §§ 7-10.

this ideal should endure the aspersion cast upon it without making the most strenuous efforts to rehabilitate it. For is not validity of form explained as a logical *mirage*, thrown by unperceived 'material' truth upon the reflecting surface of language?

But if we give up 'validity,' on what shall we say that actual truth depends? Dr. Mercier's suggestion that the 'purpose' of the argument has much to do with it certainly deserves consideration, especially as Mr. Pickard-Cambridge's objections do not seem to dispose of it. Mr. Pickard-Cambridge is confident (p. 537) that "whether your inference about certain relations follows or does not follow from the premisses cannot depend upon your object in attempting to draw it, or in starting the inquiry. It depends upon a difference between the relations themselves." The examples given above may I hope abate a little Mr. Pickard-Cambridge's confidence. For in all these cases the 'validity' of the reasoning certainly does seem to be intimately related to the object, aim, or purpose of the argument. If we aim at microscopic exactness, differences in the size of A, B and C become relevant which are negligible when a rough estimate will suffice. The reasoning about the 'next-ness' of A, B and C depends on how mathematically or colloquially we are purposing to conceive the notion of 'next,' and similarly that about 'cheating' depends on the context in which the term occurs.

Mr. Pickard-Cambridge also seems to labour under a certain misapprehension of the position he attacks. He supposes it to be implied that if 'validity' depends on the purpose of the argument "we are *entitled* to neglect the difference between the kinds of relation referred to and to look *only* to the purpose, *assured* that in any argument whose purpose is *parallel* to that of an argument which we already know to be valid, it will be valid to draw a parallel conclusion. But this expectation, of course, breaks down at once." Here I have ventured to italicise the terms which seem open to exception. The insertion of the word 'entitled' begs the question in dispute by again slipping in a reference to the ideal of a purely 'formal' validity which the reference to the purpose of the argument has implicitly repudiated. For in strictness it cannot be contended that the neglect of *any* difference can ever be a 'valid' process to which the logician is 'entitled'. It always has to be done, of course, in real reasoning, but it always involves a *risk*. What we neglected as irrelevant may always turn out to have been relevant and so may wreck our inference. Hence we can never be 'assured' in advance, when we embark on an argument, that it will bring us safely to port. In real reasoning, nothing venture, nothing have; the hope of truth is ever bound up with the risk of error. Again I can see no reason why Dr. Mercier should accept the '*only*' Mr. Pickard-Cambridge has *added* to his position. It is quite possible to think a knowledge of the purpose 'essential' to the knowledge of the value of an argument without assuming that this knowledge is all-sufficient. It may be part of

the 'essence' without being the whole of it. Lastly, the term 'parallel' seems to involve a metaphor the purport of which is obscure. In (Euclidean) geometry certain lines are said to be 'parallel' when they can be produced ever so far either way and yet never meet. But it can hardly be *this* property of parallels that Mr. Pickard-Cambridge wishes to indicate when he attributes 'parallelism' to arguments.

Having in these respects defended Dr. Mercier against Mr. Pickard-Cambridge's strictures, candour compels me to add that his phraseology does not seem to me to be altogether unexceptionable. His conception of 'validity' is not of course as formal as Mr. Pickard-Cambridge's, just as the latter's is not as formal as that of the strict formal logician, but still it seems doubtful whether he would admit that his phrase 'the purpose of the argument' stands in need of further definition. This purpose is of course a very real fact, though the old logic has ignored it; it becomes a perfectly definite thing whenever a form of words is *used*. It has to be ascertained before the *truth* of a proposition can be discussed, because it has to be ascertained before its *meaning* can be understood. But it may vary (within pretty wide limits) in the various cases of the use of the same form. The mere words of the reasoning therefore cannot be said to reveal '*the*' purpose of the argument, or indeed any of the many purposes to which they may minister. If it was judicious to refer to so important a point so briefly (which I doubt), Dr. Mercier's formula should at least have run 'for a purpose of the argument'.[1] That will not at any rate delude the logician into thinking that a 'form' can have only one meaning and can serve only one purpose, and that he need not trouble to ascertain what is the actual meaning of the 'judgments' he sets out to evaluate.

Lastly I would suggest, certainly to Dr. Mercier, and (with some trepidation) also to Mr. Pickard-Cambridge, that when they talk of 'validity' they really mean 'value'. But the topic of Value is still, alas, a *terra incognita* for logic, and indeed largely for all philosophy.

[1] I now see that in his reply in No. 97 Dr. Mercier has gone more fully into the logical importance of the purpose of the argument (pp. 87-89), and cordially agree with his account of this.

F. C. S. Schiller.

THE *A FORTIORI* ARGUMENT.

In Mind, No. 92, page 567, Dr. Mercier challenges Mr. Shelton to express the *a fortiori* argument syllogistically, and in No. 93, page 78, Mr. Shelton answers this challenge. He there—following a suggestion of mine [1]—takes the two statements, 'A is greater than B,' and 'B is greater than C,' as together expressing the minor premiss of the argument as given, and he supplies a major premiss which in conjunction with this minor guarantees the truth of the conclusion, 'A is greater than C'. Are there any philosophical reasons why this solution should be considered unsatisfactory?

If Dr. Mercier has any such reasons it seems a pity that he should obscure them by making so much play with irrelevant remarks. What philosophical weight can there be in literary objections to the form in which the missing major premiss happens to be expressed? We may all agree that the hypothetical form preferred by Dr. Mercier ("If A is greater than B, and B than C, then A is greater than C") is neater and less unnatural than the one to which we are committed when the problem is to translate the given argument into a 'categorical syllogism'. But what possible relevance can such literary criticism have? To call Mr. Shelton's major premiss a "concocted universal" is only to call it what it professes to be, while to say that it is "painfully and laboriously concocted" is neither relevant nor true. It may very well seem to the literary critic a "monstrosity" and "a stupid, cumbrous, complicated, ridiculous form"; and it may even deserve some of these abusive epithets; but if it is philosophically unobjectionable what more need the logician demand of it? When Dr. Mercier asked to have a naturally expressed argument translated into syllogistic form, why should he be surprised if the expression becomes unnatural? The more acquaintance we have with the defects of Formal Logic the less room is there for this surprise. If, for instance, Formal Logic were able to recognise that every major premiss, as such, is a hypothetical in meaning even when

[1] I have no idea who first applied this method. Dr. Mercier calls it "an old device of Jevons's," but in the four logical books of Jevons's which I possess—the *Principles of Science*, the *Substitution of Similars*, the little *Primer*, and the *Elementary Lessons*, I have not yet been able to find anything about the *a fortiori* argument, except a bare definition of it in the last-named. Perhaps Dr. Mercier can supply a reference?

not so in form, there would be no object in using a clumsy 'categorical' form to fill up this gap in the argument.

An equally serious irrelevance is the assumption that because the reasons for the *a fortiori* conclusion are given in the form of *two* propositions, and because there is a B in both (which looks like a middle term), therefore they are "the premisses". The question raised by Mr. Shelton is whether they do or do not together constitute the minor premiss only. We cannot solve this question by assuming its answer beforehand.

Irrelevant also, because ambiguous, are the questions whether we do or do not "reach a conclusion through a universal," and whether "every argument must contain a universal". In answering them we need first to distinguish between reaching a new judgment and supporting a proposed conclusion. The fact that these two operations are in actual reasoning often—if not always—entangled need not prevent our agreeing that in the former operation, considered abstractly, the reference to a universal may often be absent. But it is the latter operation only with which we are here concerned. Given certain reasons ('A is greater than B, and B than C') for a conclusion ('A is greater than C'), what further assumption is required to make those reasons cogent? Similarly the question whether every argument must contain a universal may be taken in meanings so different that, until further explanations are given, it cannot be answered either Yes or No. If it asks whether every form of words that can be called an argument is syllogistic, not even a formal logician would answer Yes; nor again if it asks whether every argument as expressed in ordinary life has both its premisses openly stated. And if it asks whether every universal judgment requires a wider universal to support it, why should anyone demand this support in the case of a universal which seems to him axiomatic? On the other hand, if it asks whether the giving of a fact as evidence for a conclusion implies a belief in some universal, is there anyone who would seriously answer No? I should prefer to say that not one universal but many are often thus implied in (what is commonly called) a single argument, since every detail in a fact gets its evidentiary value from our belief in rules under which such details may be brought. The formal logician's habit of assuming that it is easy to distinguish, in actual reasoning, between a single argument and a cluster of arguments, or between a single 'proposition' and a cluster of propositions, is one of several causes of the ambiguity of the question. Another may be found in the habit of trying to get a single formula which shall apply equally to arguments from facts and to arguments which are only an interpretation of words; in the latter the process is normally independent of our knowledge of natural uniformities, and consists in substituting one equivalent term for another—such equivalence being often limited, as Dr. Mercier says, to a particular purpose in view. When we define

a syllogism as the application of a general rule to a particular case it may be held that verbal substitutions of this kind are not necessarily syllogistic. Call them 'arguments' by all means, if we like, but let us recognise also that they are arguments about the meaning of a given statement, rather than about the inference to be drawn from given facts.

Another question is suggested by Dr. Mercier's contention (MIND, No. 97, p. 84) that the concocted universal[1] *means exactly the same* as the argument, 'A is greater than B; B is greater than C; therefore A is greater than C'. No doubt it means the same as the hypothetical 'If A is greater than B, and B than C, then A is greater than C'. But is there no difference between asserting that a conclusion *is* proved by the facts as given, and asserting that it *would be* proved if those facts should be found true? Every general rule asserts that *if* a case of it should be presented to us such and such a conclusion would be inferrible, but the assertion stops short of saying 'Here *is* a case, and therefore the conclusion may here and now be drawn!'

One can understand how a formal logician might be led to ignore this difference. Take the case of the hypothetical 'If all M are P, and S is M, then S is P'. He might maintain that this means exactly the same as an argument in *Barbara*. Since the 'validity' of *Barbara* is not affected by the truth or untruth of the premisses, it may seem to him that it does not matter whether we *assert* their truth (and that of the conclusion) or not. If so, I would submit that this is an instance where the formal logician's pre-occupation with validity rather than with value leads him to ignore a difference which is better not ignored—namely between professing to put forward facts sufficient to prove an asserted conclusion and merely stating conditions which, if fulfilled, would be sufficient to prove it. In the latter operation no pretence of actual proof is made, and where the statement is axiomatic nothing disputable is said, and no risk of error taken.

Dr. Mercier, I believe, agrees with Dr. Schiller and me that most of the traditional logic is trivial and silly. That amount of agreement encourages me to ask whether he has any objection—other than literary—to make against the concoction of a universal for the limited purpose here suggested. The suggestion is that, when we have a fact or facts asserted as sufficient to prove a conclusion, two questions arise before a sound decision can be reached. One is the question whether such facts are true; and the other is whether, if true, they are sufficient for proof. Where a complete syllogism is set out—as seldom happens in serious reasoning nowadays—these questions refer respectively to the truth of the minor and the major premiss. But where facts only are asserted as

[1] "All cases where, of three things, the first is greater than the second, and the second greater than the third, are cases where the first is greater than the third."

reasons, and their sufficiency is left to be assumed, it is often worth while to express this assumption in the form of a concocted universal in order to see whether the arguer is prepared to defend it in its full extent or not. His failure to do so impairs the sufficiency of his reasons. And where, as in the given example of the *a fortiori* argument, the implied assumption is axiomatic and therefore not likely to be doubted, its statement in words is not likely in ever day life to be asked for. Nevertheless it can be given, on demand. Suppose the argument had been 'BA and AC are two sides of a triangle; therefore the line BAC is longer than BC'. Would the comparative neatness of the expression, 'Any two sides of a triangle are together longer than the third,' reconcile Dr. Mercier to this manner of expressing the argument syllogistically? I submit that, so long as the concocted universal has an intelligible meaning, any literary defects in it are without logical importance.

ALFRED SIDGWICK.

THE NATURE AND GEOMETRY OF SPACE.

I HAVE to thank Mr. Turner for his courteous criticisms on my article about "Space". But they appear to me to rest mainly on misunderstandings of the position that I was trying to maintain and on a failure to notice certain distinctions and definitions which I laid down. Mr. Turner also argues from some premises which seem to me to be false. It will therefore be worth while to make a short reply in the hope of reaching a better understanding. In quoting Mr. Turner's criticisms I will refer to them as T. and give the page in MIND No. 98 from which the quotation is made.

(1) 'It would seem to follow that each "private" space must contain its own "private" matter; we cannot restrict this "privacy" . . . to space . . .' (T. 223). . . . 'Mr. Broad . . . later qualifies his position by the assertion that we do not know whether such (private perceptual) spaces be possible.' (T. 224.) My position, which I thought I made clear in the article, is this: (*a*) *If* there be genuine private spaces there will be private matter in them. (*b*) If there be physical space and physical matter then the physical matter is not in any private space. (*c*) The reason why it is doubtful whether there are private spaces with private matter is not that the *privacy* of our sense-data seems doubtful nor that it is doubtful that our sense-data stand in *spatial* relations to each other. The question is whether a private world consisting of sense-data in spatial relations can also be regarded as a space containing matter, when we define the difference between space and matter as I define it in the article. It is curious that Mr. Turner never explicitly mentions the distinction which I laid down between space and matter and tried to defend; indeed it is clear by implication that he ignores it and takes a different distinction which I do not accept. Thus he argues that material unextended points are impossible because *material* and *unextended* exclude each other by definition (T. 227). Now they may exclude each other on Mr. Turner's definition, but they do not do so on mine. On my definition geometrical points stand in timeless spatial relations to each other; whilst material points stand in spatial relations which may alter, and these relations are themselves dependent upon two others—(*a*) the relation of being *at* a geometrical point at a certain moment and (*b*) that of two geometrical points to each other. With this definition there is no objection to material unextended points.

Mr. Turner's real objection to unextended material points is no

doubt contained in his footnote (T. 228) where he asks: 'Can a selection of unextended points be an extended straight line?' I should reply: Most certainly. A straight line *is* a series of unextended points ordered by a certain relation. Similarly an extended bit of matter can be regarded as a set of unextended material points ordered by certain relations. I do not think that any one acquainted with the modern mathematical theory of the continuum will quarrel with these views.

(2) . . . 'What grounds do we possess for our knowledge that this space, which *I* add to *my* experience is identical with the space that you (and others) add to your (and their) experience? Why, if perceptual spaces are private, should not thought-constructed spaces be private also' (T. 224). I argued in my paper that physical space was constructed to deal, not merely with *my* sense-data, but with all the sense-data of all normal waking persons. Assuming that it is possible for us to communicate with other people and to learn about their experiences there is nothing impossible in such a construction. And if it be possible at all it will naturally not be private to any one person. I did not indeed deal with the limitations and implications of intersubjective intercourse, but I would point out that exactly the same problem would arise for Mr. Turner. He rejects what he calls 'private space theories' and prefers the view that 'all appearance is partial reality' (T. 223. See especially note 4). How far this view is incompatible with 'private space theories' I could not undertake to say unless I knew much more accurately than I do in what sense Mr. Turner interprets it and them. But, at any rate, Mr. Turner has to 'supplement' his appearances 'from regions outside themselves'. He can only learn about the latter from descriptions given by other people, and so any difficulty about the reliability of intersubjective intercourse and the possibility of thought being as private as sensation affects him as much as it affects me. I may as well at once reply to 'the popular opinion that our "thoughts" are essentially private' (T. 224. Note 7) which Mr. Turner considers important in this connexion. My thought of the number 2 is an event in my mind with a certain place in my history; it differs from Mr. Turner's thought of the number 2 which is an event in his mind. Both these thoughts are thus private. But their object, the number 2, is not private. Similarly physical space is not private, though my act of thinking about space is private to me and Mr. Turner's act of thinking about space is private to him.

(3) I never denied for a moment, as Mr. Turner seems to think (T. 225), that 'the content of perception (spatial relations) and the object of thought (space) have some common[1] real element'. Nor

[1] I do not understand the force of the word *real* here. If Mr. Turner means that there must be particular existent parts common to private and physical space I disagree. But this is not necessary in order that the adjective *spatial* may reasonably be applied to both.

did I suggest for an instant that what we perceive is spatial *relations* and nothing else, and that physical space does not involve spatial relations. What we perceive at any moment with any sense is a complex whole in which we can distinguish on analysis extended terms and spatial relations. These relations have certain logical properties and are the clue to all that we assert about physical space. The logical properties that we ascribe to the relations of points in physical space are not indeed *identical* with those which are possessed by the relations which we find in the object of sense-perception; if they were physical space would not do the work for which it is constructed, *viz.* the correlation of *all* sense-data in *all* normal waking people. But there is enough analogy to make it perfectly reasonable to call both kinds of relation spatial. And, since in my view the points, lines, etc., of physical space are expressly constructed to deal with sense-data and their relations, I cannot see much relevance in Mr. Turner's remark (T. 226) that 'unless these definitive terms have some reference ultimately to the content of perceptual experience, they become wholly void of meaning'.

(4) It remains for me to notice an argument of Mr. Turner's which I do not profess to understand. He says (T. 225) that if we treat space as I treated it in my article 'we must logically take the same view of force, time, mass, truth, duty, and every other ultimate scientific and moral concept alike'. This, Mr. Turner thinks, is a 'serious dilemma'. I can only reply by proposing the following dilemma to him. Either duty, truth, etc., are very much like space or they are not. If they are there can be no *objection* to treating them in the same way as space, and if they are not there can be no *need* to treat them in the same way as space.

C. D. BROAD.

VI.—CRITICAL NOTICES.

(1) *A Course of Pure Mathematics.* By G. H. Hardy. Cambridge University Press, 1908. Pp. xvi, 428. Cloth, 12s. net.

(2) *A Course of Pure Mathematics.* By G. H. Hardy. Second edition. Cambridge University Press, 1914. Pp. xii, 443. Cloth, 12s. net.

(3) *A Course of Modern Analysis :* An Introduction to the General Theory of Infinite Processes and of Analytic Functions; with an Account of the Principal Transcendental Functions. By E. T. Whittaker. Cambridge University Press, 1902. Pp. xvi, 378. Cloth, 12s. 6d. net.

(4) *A Course of Modern Analysis :* An Introduction to the General Theory of Infinite Processes and of Analytic Functions; with an Account of the Principal Transcendental Functions. Second edition, completely revised. By E. T. Whittaker and G. N. Watson. Cambridge University Press, 1915. Pp. viii, 560. Cloth, 18s. net.

It is tolerably well known that, especially during the last fifty years, there has been in mathematics a growing tendency towards a logical treatment of conceptions and a logical deduction of theorems. This is due to the growth of branches of mathematics, such as the theory of aggregates, which are concerned with very much the same things as modern logic as developed by Leibniz, Boole, De Morgan, Frege, Peano, Russell, and Whitehead. One of the results of this mathematico-logical *rapprochement* is that the number of people who are interested in both logic and mathematics is now fairly large; and this is very striking when we reflect that there was hardly a single logician among the mathematicians of Great Britain between the times of John Wallis and Augustus De Morgan. Nowadays, mathematics would hardly be put to shame by another Bishop Berkeley, and probably the only place in Britain where logic and mathematics are still held to be separate sciences is the city of lost causes.

Another result is that some mathematicians have become much more strict in their expositions. In what follows, I will try to give a fairly exhaustive examination of the changes which the last ten years or so have brought about in successive editions of two

well-known mathematical text-books in use at Cambridge. This will suggest some reflections on the question as to whether or not teaching should be guided by what may seem to be the spirit of logic into paths which differ from the historical ones that alone seem to lead to great and lasting work. It is a truism that history is irrelevant to logic, that the truth or falsity of a proposition is independent of the way in which so and so discovered it, but it seems as great a mistake to banish from teaching a discussion of the growth of ideas as to try to build a house without scaffolding on the ground that the scaffolding is not a part of the building.

Mr. Hardy's book, as the Preface tells us, was 'designed primarily for the use of first-year students at the Universities whose abilities reach or approach something like what is usually described as "scholarship standard,"' and it is this class whose wants he has considered first: it is in any case a book for mathematicians. This is still more the case in the second edition: whereas in the first edition a great use is made of geometrical intuition instead of strict logical proof, in the second edition the logical aspect of mathematical analysis is treated at far greater length. It is undoubtedly the case that the first edition offered fewer difficulties to a student, but it cannot be denied that the changes in the second edition have made the book far more useful to mathematicians. In it hints are given to enable a student to omit any parts in which a logical argument is too subtle for him, and a particular merit is that the fact that there are logical difficulties is quite clearly explained. Mr. Hardy seems free from any tendency to insert notes mentioning that there is a difficulty which do not say what it is; this process is not unknown among unpractised teachers, and only succeeds in quite pointlessly puzzling, irritating, or even boring a student.

In both editions some knowledge of integers and fractions is assumed, and it is roundly stated that 'the notion of a rational number obviously includes as a particular case that of an integer, since any integer may be expressed as a fraction whose denominator is unity'. Mr. Hardy is, of course, wise, from a teacher's point of view, in hiding completely from the student that the rational number 2 : 1 is something of quite another nature from the integer 2. Only in the second edition does an analogous case for *real* numbers come up for discussion. In the second edition are added to Chapter I. a sketch of Dedekind's theory of real numbers and a proof of Weierstrass's theorem about points of condensation. In the first edition the chapter to which these additions are made was solely concerned with the representation of rational numbers by points on a straight line, the reasons which lead us to believe in the existence of irrational points and in corresponding 'irrational numbers,' and theorems on quadratic surds and real numbers in general. 'I have not attempted,' said Mr. Hardy in the Preface (pp. v-vi) to this edition, 'to include any account of any purely

arithmetical theory of irrational number, since I believe all such theories to be entirely unsuitable for elementary teaching. My aim in this chapter is a more modest one: I take the "linear continuum" for granted and assume the existence of a definite number corresponding to each of its points; and all that I attempt to do is to analyse and distinguish the various classes of numbers whose existence these assumptions involve' (*cf.* note on p. 10 of the second edition). In the second edition a more abstract discussion is added and the author says (p. 13): 'When we have substituted sections of rational numbers for the rational numbers themselves, we are almost forced to a generalisation of our number system,' and defines a real number as a segment.

Let us consider what we mean when we speak of the 'generalisation of number'. It was not the case that mathematicians, finding that they could not subtract 3 from 2, for instance, were led to devise a new class of 'numbers' which would allow them to subtract the greater from the less. 'Negative numbers' seemed to have first appeared in algebra because of the observation that if we have a large number of positive and negative terms, we may for convenience add together the negative ones as if they stood for numbers. Then analytic geometry showed how these signs of which the signification was not at first definitely known meant something almost visible in applications of algebra to geometry. The perception that negative numbers were useful satisfied mathematicians for hundreds of years, and it was only comparatively lately that they saw clearly that 'negative numbers' were not numbers at all but operations. If mathematicians had really followed the maxim of inventing results where results in the ordinary way are impossible, they would certainly have extended the number system so as to enable them to sum divergent series in ordinary analysis. Thus we can hardly agree with Mr. Hardy when he says on p. 7 of the second edition that such facts as that $x^3 = 2$ has no rational roots are 'plainly sufficient to make some generalisation of the idea of number desirable, if it should prove to be possible'. This is an example of what we so often come across in text-books: logical rigour is thought (correctly) to be unsuitable for a very youthful student, and so the writer of the book substitutes for an account of the nature of something or other an account of how he thinks that the something might have been discovered but was not. Often such suppositions are very unnatural. Again, though nobody can deny that the historical development is natural, yet some writers dimly see that history alone does not tell us about the nature of the subject, and combine more or less historical exposition with more or less logical notes. We shall have an example of this later on.

I cannot think that it would be at all a natural thing to assume that rational numbers should be replaced by segments of rational numbers before irrational numbers are introduced as segments.

Certainly if this were the case an extension would be immediately suggested; but as a matter of fact it was questions of existence that suggested that irrational numbers should be defined as segments, and only then did it seem good to define rational numbers as segments also.

One of the great merits of Mr. Hardy's book is (pp. 18-19 of the first edition and pp. 26-27 of the second) the excellent discussion of what is meant by a 'variable,' which should be a more puzzling notion to a beginner than it is. The remarks on finite and infinite classes (pp. 110-111 of the first edition and p. 108 of the second) should be read with this discussion. By the way, as an example of a class, the first edition had 'red-headed Germans' while the second edition substituted 'members of Parliament'. I dare not express an opinion as to whether and in what way this substitution is connected with the war, any more than I dare about the substitution of 'the Emperor of Russia' for 'the Emperor of China' in the last edition of Mr. Russell's *Problems of Philosophy* (pp. 70, 116).

In Mr. Hardy's third chapter complex numbers are introduced as correspondents of displacements in a plane, and this introduction is practically the same in both editions. The discussion of what we are to mean by 'multiplication of displacements' is also practically unchanged in the two editions (pp. 72-75 and 75-78 respectively), and is quite admirable. It seems indeed that there is a good case to be made out for this geometrical introduction of complex numbers in teaching as opposed to the historical method. There is a notable deviation from logical method in the re-definition of equality for complex numbers (p. 75 of the first edition or p. 78 of the second). In the second edition there is on p. 125 a note on the ambiguity of the word 'obvious'.

In the fourth Chapter we come across the question of the existence of a limit. Considering that in the second edition so much was added on the strict theory of real numbers. it is somewhat disappointing to find that the comparison theorem of convergent series is dismissed as shortly as it was on p. 145 of the first edition (see p. 143 of the second edition). Of course the point of this theorem is one which people who rely on geometrical intuition are likely to overlook, and it would seem advisable to press it home to those who wish to become mathematicians. I cannot help feeling that the necessity for proving the existence of a limit appears most clearly—as it did historically—when we consider the advantages of defining an integral as the limit of a sum (*cf.* p. 219 of the first edition and p. 228 of the second). To the fourth chapter are added in the second edition (pp. 149-153) sections on the 'limits of indetermination of a bounded function,' the 'upper and lower bounds of a bounded function,' the 'general principle of convergence' for a bounded function, and so on.

The additions to the fifth chapter in the second edition are

extremely important. The conception of 'uniformity' is brought in for the first time (*cf.* p. 8 of the first edition) and the Heine-Borel theorem is proved and applied to continuous functions on pp. 185-190, while pp. 191-194 are on the existence proof of implicit and inverse functions. It has been more and more recognised that some of the most important theorems of mathematical analysis use this notion of 'uniformity'. We shall shortly have occasion to notice that the proof of Cauchy's theorem on complex integration depends, in its simplest known form, on this conception. I think we may almost say that the most striking of the reforms introduced into mathematics by a stricter logic is the use and abstention from neglect of this conception.

To the seventh chapter an interesting note on the rigorous introduction and treatment of differentials is added (pp. 280-281). This concluded the list of changes in the second edition which are of the greatest logical interest. I think it is true that, both in the case of Mr. Hardy's book and the book to be reviewed next, that the most valuable effect of the advance of logic in mathematical thought is the adequate treatment of the principles on which questions relating to uniformity depend.

For teaching purposes it would seem advisable still to use the first edition for an elementary course, and to use the second edition as a stepping-stone to the theory of analytic functions. Every page breathes Mr. Hardy's supreme competence as teacher and mathematician. That he considers it advisable to use modern logic in teaching mathematics is one of the strongest arguments there is for inverting historical order in a course of mathematics.

There is a great contrast between the first and second editions of Prof. Whittaker's work: in the second edition Mr. Watson's collaboration has apparently affected not only the second half of the book, but also the fundamental and logical aspects. The second half in the second edition is quite the best of its kind in the English language; but we are mainly concerned here with the first half of the book, which concerns, according to the first edition (p. 7), 'those methods and processes of higher mathematical analysis which seem to be of greatest importance at the present time'. It is in this part that the second edition shows traces of the enormously important modern work on exact treatment of the subject-matter of analysis. It is not possible to say with precision whether any particular alteration is due to Prof. Whittaker or to Mr. Watson, but it is possible to make more or less plausible guesses based on a reading of Mr. Watson's very useful Cambridge Tract on *Complex Integration and Cauchy's Theorem* (Cambridge University Press, 1914).

In the first place the use of Peano's decimal system of numbering paragraphs is adopted throughout the whole second edition, and we suspect that this is a sign that the work of the logical school of mathematicians at Cambridge has left its mark on

the book. This supposition is strengthened by the reference (p. 10 of the second edition) to Whitehead and Russell's *Principia Mathematica* for fuller information on the logical foundations of the theory of number. It will seem to many students rather unnecessary to refer to this work in a chapter presumably intended to introduce them to a subject on which they are to be examined, and consequently which they need not examine at all deeply. A better argument is that one does not mention electrons at the beginning of a course on electricity. In a sentence added to the second edition we read (p. 3), that 'it is not part of the scheme of this work to discuss the construction of the class of integers or the logical foundations of the theory of rational numbers'. It would have been far better to allow this statement extended to real and complex numbers to replace the first chapter altogether; for surely it can serve no possible useful purpose to 'introduce,' as it is called in both editions, the various numbers of analysis in a fashion which is not stimulating to the learner, is unsatisfactory to the logician, and is garnished (in the second edition) with notes intended to pacify logicians or the logical conscience of the teacher but which must be quite incomprehensible to any learner. It is a pity that the authors allowed their decision 'to make the book complete in itself' (p. 5 of the second edition) to be the outcome of their consideration of the desirability of omitting the first four chapters in view of the appearance of Mr. Hardy's book. In the first paragraph of the first edition (p. 3) we read that 'positive integers . . . are inadequate to express all the quantities occurring in calculations; and so the primitive number system has come to be enlarged'. In the second edition there is a note to the word 'positive' which runs: 'Strictly speaking, a more appropriate epithet would be, not *positive*, but *signless*'. Then it is stated that 'the operations of subtraction and division could only be performed among them subject to inconvenient restrictions; and consequently, in elementary arithmetic, classes of numbers are constructed such that the operations of subtraction and division can always be performed among them'. I cannot imagine a much more unnecessary piece of information: it is partly false, wholly useless to a beginner, and wholly irrelevant to a logician. In both editions, various 'numbers' are apparently thought to be 'introduced' when only the vaguest information is given about them, and, in the second edition, it is even thought to be relevant to mention the symbols which denote some of these numbers, and which happen to be used to denote also—though this is not mentioned—other numbers of other classes. This idea of 'introduction' can only be compared to a fictitious social event. It is as though one were asked to dinner to meet a Mr. Jones and some other people; on arrival one were told by one's host, with a vague wave of his hand towards a dark room, that the inhabitant of that room was Mr. Jones; and a voice were to come

from the room: 'I *think* our host was pointing at me, but my name is not Jones'.

To the second edition is added a great deal (pp. 4-6) on irrational numbers and Dedekind's theory. It is fairly well known that Dedekind thought that he could 'create' a number 'defined by' one of his segments, and that Russell made the great advance of defining that the number to be defined actually *is* the segment. Russell thus consciously acted in conformity with what is called 'Ockham's razor'. Russell's definition is mentioned in the third note on p. 5, but no information is given as to why such a definition was made, and a learner is confused by the logically correct distinction between a *rational* and a *rational-real* number (pp. 5, 6). So long as text-books insist on trying to combine a more or less historical method of teaching a subject with footnotes giving hints about subsequent logical work, to still the protests of conscience, so long will the puzzled student be led along apparently arbitrary paths with the constant stream of what seem to him incomprehensible irrelevances sounding in his ears. It is a lack of imagination in a teacher not to divine the difficulties of a learner, and also to attribute to a learner something of the sensitive logical conscience which teachers doubtless possess owing to their reading about modern investigations.

Whereas in the first edition, complex numbers were hurried in by the words: 'To express the result of this and similar operations [the extraction of the square root of a negative number], we make use of a new number, denoted by the letter i; this is defined as a quantity which' satisfies certain laws. Of course it is obvious that this is no attempt even at an 'introduction' in the authors' sense. In the second edition, however, complex numbers are defined in quite the fashionable way as pairs of real numbers, and a very modern spirit is shown by the fact that equality is not redefined for complex numbers. But it is rather unsatisfactory to read (p. 7) that 'we are at liberty to define the product of two number-pairs in any convenient manner; but the only definition which does not give rise to results that are merely trivial is that symbolised' . . . and so on. It is hardly fair to a student to expect him to know what the authors consider trivial. It would have been far better simply to have omitted this and to have referred to Mr. Hardy's excellent treatment of the subject.

The question of the existence of limits is much more thoroughly treated in the second edition than in the first (*cf.* p. 10 of the first edition and pp. 13, 14, 20 of the second). But one or two historical remarks may be made on the second edition; in the first note on p. 13 the theorem known as the 'Bolzano-Weierstrass theorem' is said to be proved by Bolzano in 1851. In Bolzano's posthumous book of 1851 the theorem is not touched upon; in a paper of 1817 the method used by Weierstrass and others was given. The theorem in the last paragraph on the same page is

stated (by a word added to the second edition) to be Cauchy's, and Bolzano's earlier claims are ignored, as they are also in the historical note on p. 16.

What Prof. Whittaker called 'the popular idea of continuity' of a function on p. 41 of the first edition is again discussed on p. 42 of the second; and we have again an examination of the question 'how far this popular definition is equivalent to the precise definition given above'. These words might lead one to believe the contrary to the fact that what is called the 'popular definition' never held an important place either in mathematics or in popular ideas of it. The one definition is not any more *precise* than the other: all we can say is that what Prof. Whittaker calls the 'precise definition' gives a name to an idea which seems to have more useful applications than the other.

Curves were not considered in detail in the first edition; in the second they are considered more at length (pp. 43, 77), but not nearly so carefully as in Mr. Watson's Tract referred to above. This is not intended to be a reproach; as we know, the careful consideration of what can be meant by a 'curve' is a much later development than Cauchy's theory of functions, and it would seem that a student would be rather puzzled by a complete treatise on *analysis situs* before he begins to work with complex integration at all. The authors seem to be wise in omitting such a detailed discussion as is given in Mr. Watson's Tract. Also, in the fourth chapter of the second edition, on Riemann integration, which the Preface says is entirely due to Mr. Watson, there is a very brief dismissal (p. 61) of the question as to the bounds of a function of n variables which Mr. Watson, on pp. 17-20 of his Tract seemed carefully to avoid as if it was something quite different from the question of the bounds of a function of one variable.

Perhaps the most important addition to the second edition is the interesting discussion of uniformity and the Heine-Borel theorem (pp. 52-54). This theorem comes particularly into prominence when we have to prove Cauchy's theorem on complex integration in the manner of Goursat (pp. 84-89). In the first edition, although it was published subsequently to Goursat's papers, Prof. Whittaker gave a 'proof,' which he imagined to be Goursat's, but in which the whole point was missed. On p. 48 of this edition Prof. Whittaker said: 'Now suppose that each of these small contours has linear dimensions of the same order of magnitude as a small quantity l'; and by using the then slightly obscure notions of 'the order of a small quantity,' Prof. Whittaker was enabled to conceal the fact that it is only Goursat's lemma, which is a form of the Heine-Borel theorem, that shows us exactly how we can prove Cauchy's theorem without some of the restrictions that mathematicians before 1900 thought necessary. The main point might have been made clearer in the second edition, but we ought not to grumble, as at any rate the theorem is strictly proved.

In the first edition (pp. 46-47) there was a would-be proof that if the temperature were an analytic function of the time, we could foretell the temperature for all time from a knowledge of it for a day. Of course we cannot distinguish empirically between an analytic function and one that is merely continuous, for we cannot unfortunately make an infinite number of observations. It is a matter for congratulation that this example is omitted in the second edition.

One other logical point must be noticed. The avoidance of what Russell calls 'the multiplicative axiom,' which forced itself prominently on the notice of mathematicians in connexion with Zermelo's work of 1904 on the theory of aggregates, is a very important question in the formulation of the Heine-Borel theorem. On p. 53 of the second edition, the avoidance is made without any remark that it is avoided. There should, I think, have been a discussion of this point at least in an appendix.

I think that the two results of our study of the influence of logical work on the psychological problem of teaching higher mathematics are: firstly, except possibly in the case of the introduction of complex numbers, historical order is the best for bringing new ideas before a student's mind—and the logical state is a very recent state; secondly, we need organisation among writers of text-books, so that useless and confusing overlapping may be avoided.

PHILIP E. B. JOURDAIN.

God and Freedom in Human Experience, containing the Donnellan Lectures for the year 1913-14, delivered before the University of Dublin. By CHARLES F. D'ARCY, D.D. London: Edward Arnold, 1915. Pp. viii, 312.

SINCE the days of Berkeley philosophic bishops have become rarer and black swans more familiar, and yet if the soul of Plato could be beguiled to incarnate once more in this welter of Becoming and to contemplate our ecclesiastical polity, he might be tempted to advance the paradox that until philosophers became bishops or bishops philosophers reason could never be reconciled to faith and the intellectual realm would remain divided against itself, to the subversion of its whole authority over the minds of men. We ought therefore to feel grateful to the Bishop of Down for not despairing of combining philosophy with episcopacy and for holding fast to the conviction that "every philosophy is implicitly a theology, and theology is always the interpretation of religion in terms of some philosophy" (p. 6), the more so when we remember what a very strenuous flock he has had to lead through the very stirring times in which he has composed and published these lectures. Dr. D'Arcy's work is indeed a very gallant attempt to

traverse the whole battle-ground of philosophy and to fight his way through to orthodoxy. He starts with Berkeley and pays a fine tribute to "the only Irishman whose teaching takes its place as a necessary element in the main stream of human thought," and who "belongs to the great succession of the Immortals" (p. 61). But he does not on this account abjure the German type of idealism and his old allegiance to T. H. Green. He merely washes down the dry bones of the old 'idealism' with copious draughts of the new wine of Bergsonism. In the course of his progress the Bishop encounters and recognises pretty nearly all the traditional 'difficulties' of theology and philosophy, and if he does not always contrive to overcome them he at least discusses them with perfect courtesy and rare candour. The wide scope of his synthesis may be gathered from the list of his chapter headings, Experience, Degrees of Reality, the External World, God and the World, Freedom, Necessity and Experience, the Problem of Pain, Evil, Freedom and Purpose, Future Life, Mysticism, History, Natural and Human.

Where the view is so comprehensive and the material so rich there must needs be much to tempt the critic, who will exhibit his prudence in selecting the points he comments on, and his self-control in limiting their number. I can only hope therefore that the points I shall endeavour to bring up will be judged important and their discussion profitable. My selection is comprised in the following list of questions—(1) Is experience to be described as a continuum or as a synthesis? (2) What is the place of solipsism in idealistic modes of thought? (3) Does the 'independent' existence of a real world imply a God? (4) If it does, how is the consequent relation of the divine to the human consciousness to be conceived?

(1) The first question deserves the place of honour because, though it seems to concern primarily nothing but the relative convenience of rival descriptions, our choice between them has far-reaching consequences and greatly affects our valuation of the historical formulation of philosophic problems. On the one hand, if Hume was right in starting from the common-sense conception of plural 'things' and philosophic in sharpening it into a succession of utterly discrete events, we shall be right in inferring that he has dissected the cosmos into a chaos and shall hold in the highest honour the synthetic principles which will then be needed to compact together the dust-heap of sensations and to reconstitute the world; so we shall revere the philosophers who, like Kant and T. H. Green, have laboured to discover or invent such principles of synthesis. But if on the other hand, the world, life, and experience are truly a continuum from first to last, and are arrested into 'things' and dissected into 'events' only by temporary artifices of thought, which serve the passing purposes that bubble up in the stream of consciousness, we shall have no use for syntheses and principles that connect what is never really dissevered. What we

shall need will be principles of *analysis*, and we shall trace the motives and methods of the fictions by which our thought dissects our experience. In either case we shall realise that whichever method we adopt we cannot retain the other, and that all problems must be viewed differently according as we prefer the one or the other. I cannot find, however, that Dr. D'Arcy has fully realised this corollary. He begins by emphasising that experience is a continuum, and describes it admirably and eloquently, after Bergson (especially p. 28). But subsequently he seems to slip back into the phraseology of the opposite method. We hear (p. 37) that "the abstracting process . . . may very well be combined with a synthetic process by which the manifold of sense is formed into an intelligible world". He is not content to say that the self is "a concrete living experience," but tells us that it is also "the ultimate unity which *lies behind*[1] all our thinking," "*presupposed*[1] in every mental process" (p. 48), and "a concrete *uniting and integrating agency*".[1] And do not these phrases all affirm what is called (p. 47) "the weak point in all the current systems of Absolute Idealism which trace their origin to Hegel, and which are most notably represented in English thought by T. H. Green and his disciples," *viz.* that "they turn the concrete unity of the self into an abstract principle"—of synthesis?[2]

(2) Dr. D'Arcy is quite clear that idealism naturally incurs the charge of solipsism. For "the material world when examined is found to be essentially such that it can have no existence except for the consciousness of a knowing mind" (p. 57). The effect of this argument is described as 'terrifying'. "It seems to reduce everything to illusion." Not that "any reputable thinker has committed himself to this doctrine, but many dread it so much, it has become to them so oppressive a philosophical nightmare, that they escape from it only by a leap in the dark" (*ibid.*). Dr. D'Arcy disapproves on Kantian grounds of Mr. McDougall's escape from solipsism by postulating a transcendent use of the category of causation (p. 58). On pp. 67-68 Prof. Ward's theory of inter-subjective intercourse is (paradoxically) charged with being "really a form of solipsism," and reducing the physical universe to a phantom. Yet on p. 101 it is admitted that "if any one dares to adopt solipsism" "his position is unassailable". From p. 98 it appears that "the only way to escape solipsism is to hold fast to that deliverance of our common experience and our common sense, that the world which we all know is one and the same world," and, *taking this as fact*, it is argued that "the only possible interpretation of it is that the Universal Spirit which gives being

[1] Italics mine.

[2] On p. 58 also 'modern psychology' is praised for confuting Hume by proving "the synthetic activity of conscious experience," and on p. 101, the 'self-conscious subject' is called a "uniting agency".

to this great world of things in time and space is, in some way, or in some sense, for us an all-enveloping life".

With all deference to Dr. D'Arcy, his arguments here seem quite unconvincing. It is by no means easy to justify the treatment of solipsism as a philosophic bogy. But if it should properly induce a philosophic *sauve qui peut*, it is hard to say why Mr. MacDougall's way of escape should be more improper than Dr. D'Arcy's. For the transcendent use of the causal principle may surely claim to form part of the 'deliverance of common sense' in which Dr. D'Arcy puts his trust. It does not seem to be true, however, that such desperate expedients are needed or that solipsism is philosophically unassailable. It may be shown that the belief that it is, while it may be right in declaring that for solipsism life becomes a dream, is wrong in admitting that dream life justifies solipsism.[1]

Lastly "the argument from a fact to its only possible interpretation" (p. 80, *cf.* p. 306) is surely a most precarious and inadequate method of proof. Even where alternatives have not been simply overlooked, it only proves that no one has so far thought of any and so offers no guarantee for the future. In this particular case it does not appear to be a *fact* that "we all know one and the same world," though it is a convenient assumption which common sense is quite entitled to make for practical purposes. For whenever the matter is inquired into more closely, it turns out that there are always individual differences in the perceiving even of 'common' objects, while large tracts of every subject's experience (pleasures, pains, memories, dreams, etc.) are obviously unshareable.

(3) The suggestion that the common world implies a divine knower in whom human knowers somehow participate has often been made, and carries us on to the question how idealism should interpret the world's 'independent' reality. Dr. D'Arcy agrees with Dr. Rashdall that "the world as we know it exists in our experience . . . if then the world that I know is part of a much vaster world which is independent of me which existed ages before I was born . . . it must be because there is an experiencing self indefinitely greater than I who makes this great world possible". Unlike Dr. Rashdall, however, he holds "it as obvious that since the world I know is part of His world, I, who know it, must in some sense share His life". Or otherwise "a world which is one and the same and which exists only as it is experienced" can "enter into the experiences of a multitude of distinct subjects" . . . only because they all "share in one all-embracing conscious life" (p. 97).

The cogency of this argument evidently implies the absolute, and not merely the pragmatic, commonness of the 'common' world, an inference from human to a divine knowing, resembling the

[1] *Cf. Humanism* (2nd ed.), pp. 266-267.

former in certain definite respects but differing in indefinite others, and an audacious identification of the world as it appears to God with the worlds that appear to finite knowers. All these assumptions would seem to be highly disputable, and both idealism and realism would seem to be capable of accounting for the belief in 'independent' reality on simpler and less questionable grounds.

(4) In any case the value of the theory would remain contingent upon its success in elucidating the difficult problem of the relation of the divine to the human consciousness. Dr. D'Arcy is reluctant to conceive God as merely personal, seeing that personality is in a sense exclusive. Yet he is dissatisfied also with T. H. Green's 'eternal consciousness' and sees that it makes God either an abstract law according to which experiences develop, or the self of man, and so deprives man of his identity (p. 89). So he suggests that God should be conceived as superpersonal (p. 104 *f.*) and appeals to religious experience.

The crux here would appear to be how we can conceive one consciousness as including, without destroying, another, or depriving it of its characteristic limitations, and it may be suggested to Dr. D'Arcy that light may be thrown on this problem by the study of the recorded cases of multiple personality. The 'Beauchamp' case, for example, shows how the consciousness of 'Sally' could be immediately aware of the whole experience of 'B I' without sacrificing the distinct personality of either. True, 'Sally's' awareness of 'B I' could hardly be described as sympathetic: but may it not be an illusion of human conceit to believe that a being that could know us from within as we truly are would needs love us? A somewhat similar doubt besets the argument from the mystic experience. Dr. D'Arcy is inclined to make much of mysticism, and even to make it coextensive with personal religion (p. 244). But he rather boggles at the *via negativa*, and thinks its blankness is "as far as possible from the Divine fulness" (p. 248). This, however, is really an argument against mysticism as such: and a study of Prof. Flournoy's superb case of 'Cécile Vé'[1] would probably convince him that the mystics have not misdescribed their experience—even though it may be a foretaste of death rather than of a diviner life.

F. C. S. SCHILLER.

Critical Realism: A Study of the Nature and Conditions of Knowledge. By ROY WOOD SELLARS, Ph.D. Chicago and New York: Rand McNally & Co., 1916. Pp. x, 283.

CRITICAL Naturalism would be a better description of the contents of this book than the title its author has chosen. His main concern is with the question what sort of *fact* knowledge is: or more

[1] *Cf. Archives de Psychologie* for May, 1915 (No. 57).

generally (and, indeed, more accurately) what sort of facts consciousness and the mind are. His critical realism is neither the realism of the scholastics, nor a realism of the current sort which denies the existence of representative ideas. It is a mediate realism with a trinity of mind, idea-object, and physical existent. And although this realism may adequately express all the reality which a natural science that knows its business can claim, it does not (to keep to problems of perception) give us direct acquaintance either with a material world in Reid's sense, or with the non-psychical world which a theory like Mr. Russell's would substitute for the old conception of matter. "Critical realism," according to Mr. Sellars, "must be connected with a non-apprehensional view of knowledge" (p. vi): and again, "The position adopted in common by Stout and Russell that ideas do not intervene between reality and the subject knowing, is due to this hasty inspection view of knowledge" (p. 256).

Indeed, if I understand him rightly, Mr. Sellars holds that an 'inspection view' of knowledge *must* be hasty, and cannot be sufficiently critical. This is a hard thing to say of Reid's 'way of reflection,' or of the painstaking inquiries of many of the new realists; but he implies it. "We have, then, the subject-object structure within our experience and no idea intervenes between them. . . . True, but other reasons may lead us to judge that the object of our thought is not actually the thing which we take it to be" (p. 276). These other reasons are, on the one hand, the inadequacies and contradictions of natural realism (or the theory that independent physical objects are directly perceived), and, on the other hand, what is called the 'advance of the personal'. Psychology and logic both prove to demonstration that knowledge is essentially an achievement, and not merely a treasure trove which the mind may find or miss. The main business of a critical inquiry is to begin with the meanings in the matrix of perception, and to analyse these meanings in a thoroughly empirical spirit without the dogmatic preconceptions of the usual psychologies, Newtonian physics, or Cartesian dualism. Mr. Sellars's thesis is that when this task is performed with sufficient persistence and care the problems of knowledge and of the relations between minds and the rest of the universe solve themselves. There are no homeless minds or mysterious cognitive relations, but only a single nature in which minds have a function which can be empirically ascertained.

Even if it were fair to describe the new realism as an 'inspection view of knowledge' I do not see that either of these main types of objection to it is necessarily fatal. With regard to the first of them the new realists have given to the world so many theories of the relation of sensibles to physical objects that it is difficult to see what limits are set by realistic assumptions to the possibilities within this field. And unless the North Pole is as

easy to discover as a child's Christmas stocking there is no inconsistency between the views that knowledge is an achievement and that direct acquaintance must logically have precedence over all other kinds of knowledge. Finding may be a very great achievement, and involve the most intense mental activity in the way of attention, etc. In a word, Mr. Sellars seems to assume without sufficient care that if knowledge is an achievement, 'idea-objects' must be constructs. This is very easy to assume when knowledge is regarded naturalistically as simply part and parcel of an actively functioning stream of consciousness; and the same presuppositions tend to obscure the fact that problems of knowledge are much wider than problems of mere perception and of the relation of minds to 'external things'. As for the supposed mystery of a cognitive relation it is enough to say with Arnauld: "Et ainsi, ne pouvant y avoir de pensée ou de connaissance sans objet connu, je ne puis non plus me demander à moi-même la raison pourquoi je pense à quelque chose, que pourquoi je pense, étant impossible de penser qu'on ne pense à quelque chose". However, Mr. Sellars is an acute reasoner and an accurate scholar so he has a right to deprecate *ex parte* criticisms, and to attack his problem in his own way.

The naturalistic solution of these problems turns upon the interpretation of the nature and function of mind and consciousness. The conclusion of the ninth chapter is that consciousness is a variant within 'these highly evolved parts of the physical world which we call organisms' (p. vii). It is a functional variant of the cortex. Thus consciousness is part of the reality of the brain and the perplexities of the problem of mind and body result primarily from the fallacy of first of all de-animising the brain, and then asking how it can conceivably be conscious. Consciousness must, indeed, be distinguished from mind, for mind is 'conserving and enduring while consciousness represents the moment of adaptation and change' (p. 251). The mind should not be really distinguished from the brain regarded as a functioning system, and the mental control of consciousness by apperceptive systems and the like should be understood after the same fashion. This conclusion is, I think, less unusual than Mr. Sellars thinks, but he is to be commended for his statement of it, and for his argument in its favour.

According to the presuppositions of the book, this solution of the problem of mind and body is, at the same time, the metaphysics of knowledge. For knowledge must be part of what consciousness is. 'Ideas' are parts of the conscious field, and their relations to the other parts of the same field may be described, from various points of view, either in Bradley's way as the contrast between self and not-self, or in Ward's way as the subject-object duality, or in the way of the new realists as the direct apprehension of (a certain class of) objects. These contrast-

meanings within experience are not, however, the chief part of the problem. The extra-experiential *reference* of ideas is still more fundamental. Idea-objects are meanings. They are knowledge and also knowledge-about. This knowledge-about is not apprehension at all, for that implies the existential compresence of the object. It is simply what it purports to be; a set of ideas and propositions *about* a physical object, indicating relationships of this object, although the object itself cannot be directly apprehended, and should not be understood in a sense which makes apprehension necessary. Berkeley's arguments were quite irrelevant to this interpretation of the character of a physical object; but modern science understands by a physical object just what it might be expected to mean in terms of this theory. A physical object is that which certain ideas and propositions *are about*, and that which controls these ideas and propositions. The denotation of idea-objects is thus explained, and truth consists of knowledge triumphant or tested ideas.

The discussion of these points is very careful and interesting, and is neither overloaded with references nor 'got up' without, at least, a genuine attempt at sympathetic insight. It bears throughout the stamp of individual reflection, and the book is full of good things which a mere outline like the present cannot touch. It may therefore be recommended to readers of MIND whatever their way of thinking. Still the author must expect to encounter more serious difficulties than he has provided for. The physical object of his theory, like Kant's 'transcendental object,' is known merely as an x about which certain propositions are; but it cannot merely *be* that, just as my friend's mind, if it is to my knowledge only an x about which this or that is true, must, in itself, be more than this x. Again, the examples which Mr. Sellars gives of this extra-experiential reference in the concluding pages of his book (as is frequent on such theories), are not really in point. They deal with the relation of image to percept; but the percept *is* apprehended, and does not, in all probability, exercise the same control as the physical object itself. Finally, there are many features of knowledge which are quite independent of this naturalistic way of regarding it. Thus there is the relation of difference, and fundamentally the same relation of difference, between the reds and blues of perception, imagery, and the correlative physical vibrations; and this would be true whether the objects compared were constructs or not and whether they were or were not intuited. The naturalistic standpoint which takes perception as the type of all knowledge, and is primarily concerned with the manner in which it occurs, obscures these issues, and even seems to imply that any object which is directly apprehended must be existentially present, precisely in the way in which a sensible is present.

But let that pass. This book is well worth reading, and the promise of a subsequent work on the *Categories* is welcome. It is

well written too, granting that its English is not *the King's* English, and that its idiom and terminology sometimes grate on cisatlantic ears. Some of the explanations concerning natural science are disappointing, as in the case of the curious remarks concerning rest and motion on p. 232; and I wish there was an index. But the merits of the book are very considerable.

JOHN LAIRD.

VII.—NEW BOOKS.

Second Thoughts of an Economist. By WILLIAM SMART, D.Phil., LL.D. Macmillan & Co., 1916. Pp. lxxix, 189. 5s. net.

THE first third of this book is a sketch of the life and work of the author written by a former student and assistant, and including a notable tribute to the late Prof. Smart's work on the 1905-1909 Poor Law Commission from the Chairman of that body. It was, perhaps, to that work that the present book is due. On a man so warm-hearted as Smart the mass of evidence brought before the Commission made a deep impression. He found millions of his fellow-men living, and, seemingly, foredoomed to live, a savourless, monotonous, and undeveloping existence, and his misgivings—which had long haunted him—of the direction in which our economic life was issuing were quickened. It is characteristic both of the modesty and the industry of the man that, instead of urging some panacea of his own, he set to work to gather the materials whereby the labour of others might be rendered easier and more enlightened. When, however, two volumes had completed to 1830 his *Economic Annals of the Nineteenth Century*, he seems to have been aware of Death's shadow on the threshold, and, casting off the ideas of loyalty to his Science and lack of confidence in himself which had hitherto kept him silent, he was writing, till Death laid aside his pen, these Second Thoughts. Here he no longer confines himself to the limited field of Economics but "looks over the hedge to see where his Science comes in in the general scheme of things," and he writes courageously on the ethical aspects of his subject. It is these circumstances that give to this book, unrevised and incomplete as it is, such unique interest.

Prof. Smart has two chapters on the Distribution of Income and Work before passing on to Part II. which he has headed Reconstruction. As to Income, he notes the great increase of the National Income and points out that, notwithstanding the parallel but less rapid increase in population, the amount is now sufficient to average out at £222 per annum per circle of five persons, "enough to make everybody at any rate well fed, well clad, well housed". Dismissing at once impracticable schemes of equalisation of income, he then discusses the means by which the income of small wage earners might be increased, and reaches the conclusion that, apart from State Redistribution by taxation, for the extension of which method he has no liking, the only way is by the increase of the National Income. His idea seems to be not so much that the increase will yield to all a larger share as that the very process by which the increase is given will force man up to his true position of a brain worker, for he looks forward to a much more extended use of machinery, and, in particular, of automatic processes—"the progress of industry is tending to the elimination of the man who is merely a machine and to the survival of the Man who Thinks". Increased competition among the brain workers will level down their incomes, but such have the 'fine life' as compensation and the Life is the real wage. This naturally leads to a

discussion of the Distribution of Work. Here the author is more despondent, for, whereas in the former chapter he has only to face the necessity for the weeding out of a decreasing number of the economically unfit, he now, arguing that a man's daily work is a far greater thing towards the developing of the God that is in him than his wealth, finds millions engaged in monotonous, undeveloping machine tending whose economic position is secured only by the sacrifice of the purpose, whether regarded as a preparation or an end, of life itself.

So we come to Reconstruction, but it is a moral, not an economic, reconstruction for which the author pleads. "I see the economic life," he writes, "as a vast, complex, and unconscious co-operation of consumption and production," and, in essence, what he advocates is that the co-operation should be conscious, not only of itself but of its ultimate aim, what he calls "the quite definite moral purpose—the saving of the country," which phrase is to be taken as meaning the granting to everyone of room and opportunity to find in their economic life their moral life also. There follow two chapters on the Responsibility in Consumption and in Production. The consumption of wealth which recreates as much wealth as it destroys he holds morally justifiable, but, for the rest, we should aim at stimulating by our demand preferably the production of wealth which can be consumed only in direct, or, through its qualities of endurance, indirect, association with others. Thus wealth is made to 'go further,' and man, as a consumer, gains the inestimable benefit of carrying out a moral purpose in the ordinary daily spending of his income.

There remains, however, the problem of toil, uncongenial and undeveloping work. Prof. Smart appears to think that the great mass of workers have little choice in the selection of their occupations and he appeals to the employer to take himself seriously as a public servant and to recognise his high duty of organising labour to earn its full wages. The employer must regard the employing motive as predominant and contrive to give his workers an interest, a hope, and a stimulus in their working lives quite apart from, and in addition to, their monetary reward.

Whatever one may think of the possibility of educating men to adopt consciously these moral standards in consumption and production, or of the extent to which such adoption would abolish the evils incident to the present economic system and yield a 'fine life' to all, it is impossible to read the book without having one's admiration rekindled for the nobility of character and high purpose of the writer; all unconsciously the pages glow with their testimony.

J. P. Day.

Freedom and Purpose. An Interpretation of the Psychology of Spinoza. By James H. Dunham, Ph.D., Professor of Philosophy, Temple University, Philadelphia. Psychological Review Company, Princeton, N.J., and Lancaster, P.A., 1916. Pp. ii, 126.

This essay is "an attempt to interpret Spinoza's ideas of human consciousness in terms of modern psychology". The plan followed is simply to give the "interpretation," in the text and copious references, confined almost entirely to the *Ethics*, in footnotes.

Now Spinoza is primarily a metaphysician and his psychology appeared to him to be essentially connected with his metaphysics. Prof. Dunham ought therefore to have inquired carefully how and how far the psychology is separable from its metaphysical presuppositions. But no discussion of this question is to be found in his essay, and there is no evidence that he

has seriously grappled with the problem. The account of the psychology itself, even if we make the fullest allowance for the difference between an "interpretation" and a translation, is very far from accurate either as a whole or in detail. Prof. Dunham throughout ignores Spinoza's rationalism and substitutes for it, without warning or discussion, views harmonising with his own more empirical position. The fundamental distinction between Imagination and Understanding is certainly psychological, though it has a metaphysical basis. Yet Prof. Dunham so far from placing it in a clear light, persistently ignores it, on the ground, I presume, that it belongs to the "shell of scholastic formulæ" from which Spinoza "never wholly released himself" (Preface). He asserts, at the outset, that for Spinoza "percept and concept are inevitably joined; there is no distinction between them" (p. 8). As the sequel shows this is meant to apply to Intéllect and not merely to generic images. For Spinoza's "ratio" in its practical aspect, Prof. Dunham substitutes what he calls "characterisation," which he defines as the "working of type purposes into an individual system". This means, apparently, the distinctive form which the impulses or modes of behaviour, common to a species, take in the individual member of the species. For Spinoza's intuition he substitutes "reflexion" in the sense of self-consciousness. The general failure to recognise what Spinoza meant by "Intellect" emerges in a glaring form in a statement concerning adequate ideas (p. 41). "The human mind, even in its infancy, has within it certain 'adequate' as well as inadequate ideas. An idea is adequate when it reflects an exertion entirely appropriate to its body's powers, as, *e.g.*, when it seeks for food or cries out in pain; though purely reflexive such acts are free." In support of this, Prof. Dunham refers only to *Ethics*, iii., 1. What Spinoza there asserts is that "in so far as the mind has adequate ideas it is active, and in so far as it has inadequate ideas it is passive".

Many of the references to Spinoza's writings in the footnotes obviously fail to support the exposition or "interpretation" of his views which is given in the text. I give an example taken at random. "Impressions derived from contingent bodies, *i.e.*, bodies dependent for action on secondary causes, are fainter than those instilled by necessary things" (p. 50). This passage at once suggested the questions: Can Spinoza have seriously spoken of contingent bodies as if the contingency were something real independently of our point of view? and, Where does he define contingency as dependence on "secondary causes"? Turning to the footnote, we find a reference to *Ethics*, iv., 11, where it is asserted that "emotion towards a thing which we imagine as necessary is *cæteris paribus* more intense than towards something possible or contingent". There is nothing about "secondary causes," and the only relevant definition of contingency is that given in *Ethics*, iv., Def. iii.: "I call singular things contingent; in so far as, when we attend only to their essence, we discover nothing which necessarily posits or excludes their existence". Of course, according to Spinoza, there is nothing really contingent.

I would not, however, say that the book is without value. Here and there it contains passages which really illustrate Spinoza's doctrine in a welcome way; and as a whole it is interesting if it is taken not as an interpretation or exposition, but as the development of an independent psychological theory of freedom, more or less akin to that of Spinoza and perhaps inspired or suggested by reading him. I say "perhaps," because I do not know whether the author derived it from Spinoza or first worked it out independently and then compared it with Spinoza's teaching.

War, Progress, and the End of History. VLADIMIR SOLOVIEV. Translated from the Russian by ALEXANDER BAKSHY, with a Biographical Notice by Dr. HAGBERG WRIGHT. London, 1915. University of London Press. Pp. xxxiv, 228.

Soloviev's remarkable dialogues would perhaps be more becomingly reviewed in a journal of general literature than in so specialist an organ as MIND. Not that they are not full of philosophical thought, but the philosophy they contain is "popular" philosophy of the very best kind which appeals as much to the average educated man as to the specialist student. To review them is almost like attempting to review the *Gorgias*. Judging of their literary quality, as, being ignorant of Russian, I am obliged to do so through the medium of a translation by a Russian not yet perfect in English idiom, I should conceive that their sheer literary beauty in the original text must be quite extraordinary. A delightful humour is shown in the characterisation of the personages who take part in the conversations, a brave simple-minded old general whose character finds expression in his own statement that the things for which he cares supremely are, and in this order, God, Russia, and his military work, a rather cosmopolitan and very "disillusioned" diplomatist devoted to what he calls "progress," *i.e.*, safe and comfortable existence, and a peculiarly delightful fool, the "prince" who acts as spokesman for the "pacificism" and "true Christianity" of Tolstoy. There are, besides these, a lady who, though of no importance for the development of the author's thought, is a quite real and amusing person, and an unnamed speaker, Mr. Z., who represents the fervent Apocalyptic Christianity of Soloviev's own later years. The general line of thought that runs through the book is very simple. The Tolstoyan doctrine of non-resistance of evil is hopelessly illogical, and is also, when presented as "true" Christianity, a fraud into the bargain, for Christianity means definitely an unrelenting war of good against evil. The hope of establishing a "Kingdom of God" by pacific "progress" is a vain thing, for progress can have no value unless we are assured of the permanency of the soul. A human progress which is to end in the extinction of the human race provides no adequate incentive to noble action. And the victory of good over evil can only be secured by victory over the "last enemy," death, the supreme manifestation of the evil principle. The very centre of the Christian faith is therefore the hope of the Resurrection, and "progress" is no more than a sign that the process of history is coming to its end with the appearance of Antichrist and the Second Advent. This thought is worked out elaborately in the extremely brilliant story with which the third dialogue ends, as with a sort of Platonic myth, a story which attempts to forecast how the political and social conditions of the opening of the twentieth century might lead in a few generations to the establishment of a universal Empire and the development of the Superman at its head into the Antichrist. Whatever one may think of Soloviev's Apocalypticism, one can hardly doubt, as one follows the narrative, that if Antichrist is to come, he must be very much the kind of being Soloviev had imagined. And I pity the "pacifist" who cannot appreciate the humour of the General's caustic criticism of his own doctrines. The translation is readable enough, though the translator finds some trouble with English idiom, especially with regard to the use of the definite article, and occasionally mars a passage by the use of slang words, like "enthuse". The friends to whom he acknowledges his indebtedness might perhaps have warned him that English readers would hardly recognise the Buddha under the description "the hermit of the Sacciah tribe," which for them requires

to be translated back into Sanskrit, and that "Suttee" means to us something very different from a Buddhist "Sutta". Some, too, will hardly understand that "the St. Stephen's agreement" means the treaty of San Stefano. And Orthodox, when used as a special title of the Eastern Churches, should always have a capital letter. (*E.g.*, on page 203, "many an orthodox Catholic and Protestant," obviously ought to read, "many an Orthodox, Catholic and Protestant".) Some familiar non-Russian names also appear in a Russian disguise, *e.g.*, Gufeland for Hufeland, Baroness von Zutner for von Suttner. I note an awkward mispunctuation at page 210, where line 15 should, of course, read, Domine, salvum fac magnum imperatorem, without the full stop after Domine which gives that word a false reference.

A. E. T.

Plato and Christianity. Three lectures by WILLIAM TEMPLE. Macmillan & Co., 1916. Pp. 102.

Mr. Temple's three lectures, originally delivered to an audience in Oxford during the Summer Extension Meeting of 1915, contain an excellent and brightly written Summary of Plato's ethical and religious teaching. In view of the current tendency to neglect the importance of Plato's theism,—even the very fact that to all intents and purposes Plato was the originator of philosophical theism seems to be unknown to many writers of big volumes on Greek philosophy,—these lectures should be instructive to a much larger class of students than those to whom they were originally addressed. The writer of the present notice finds himself in substantial agreement with most of what Mr. Temple says and would gladly content himself with a simple commendation of this excellent little book. He finds it strange, however, that Mr. Temple, who draws on every other important dialogue, is absolutely silent about the one work in which Plato presents us with something like a formal digest of his doctrine of God and the soul. Has Mr. Temple, like so many Oxford students, forgotten that Plato wrote the *Laws*, and that in later antiquity the tenth Book of the *Laws* was commonly recognised as *the* great repository of Platonic religious teaching. Some of the sayings about "sacrifice" in the last lecture are perhaps a little hard. Mr. Temple seems in one breath to find fault with Plato for not demanding enough sacrifice from the individual and also for insisting that *real* sacrifice always means giving up something that is really worth having. And again he seems to make an unreal difficulty out of the fact that Plato could see the real pathos in the last hours of Socrates and yet object to the maudlin "sentimental" drama. Surely, to take a modern instance, it is quite reasonable to appreciate genuine pathos and yet to have no taste for Dickens's exploitation of children's death-beds. But perhaps the present writer has misunderstood Mr. Temple's drift.

A. E. T.

Filosofi del Tempo Nostro. FRANCESCO DE SARLO. Firenze, 1916. Pp. xv, 240. *La Cultura Filosofica.*

Eight essays on the work of recent philosophers, Paulsen, Shadworth Hodgson, Ward, Bradley, Reinke, von Hartmann, Zeller and Bonatelli. The general link of connexion between the various studies is explained in the author's Preface. He, like some of us in this country, feels that Philosophy in the last half century has suffered from the tendency to disregard national traditions for foreign ways of thought imported

chiefly from Germany. The study of foreign philosophies is always important as a corrective of one-sided national tendencies in thought, but needs to be undertaken in a critical spirit, and in the conviction that if there is ever to be a philosophy for all mankind it cannot be the exclusive task of thinkers of any one race or nation to produce it. Hence the essays aim at criticising and evaluating the work of the philosophers with whom they deal from the standpoint of a native Italian philosophical tradition. As the expression of such a tradition they should be found as valuable outside Italy as within it. In the main the author's attitude is a defence of rationalism against "voluntarism" and "pragmatism," of Theism against the current pantheism of German systems, and of the objective value of science against "phenomenalism". Many of us in England will sympathise heartily with him on all the points of his attack. His criticisms are always pertinent, and in the present writer's opinion frequently unanswerable. Perhaps Mr. De Sarlo's own views are most definitely indicated by his highly appreciative essay on the Theistic creationism of Reinke and his lucid discussion of the place of von Hartmann among German philosophers. To ourselves the most interesting articles will probably be the two long papers on Shadworth Hodgson and Bradley, the former, perhaps, the most valuable thing in the book. The author writes with so much grace and lucidity that it is the more regrettable that the book is unusually disfigured by misprints, sometimes to the entire destruction of the obvious sense of a paragraph. If this is the case with Mr. De Sarlo's own text, it need hardly be said that his quotations from English authors fare worse. Indeed, it is only the occasional quotations from the German which seem to be in general correctly spelled.

A. E. T.

Received also—

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Emile Boutroux, *Philosophy and War*, London, Constable & Co., 1916, pp. xii, 212.

Vladimir Soloviev, *War, Progress, and the End of History*, London, University of London Press, 1915, pp. xxxiv, 228.

C. Pekelharing, *Kant's Teleologie*, Groningen, Noordhoff, 1916, pp. viii, 243.

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Emile Boutroux, *The Contingency of the Laws of Nature*, London, Open Court Company, 1916, pp. ix, 196.

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Arthur Chandler, *The English Church and Reunion*, London, Methuen & Co., 1916, pp. ix, 190.

VIII.—PHILOSOPHICAL PERIODICALS.

American Journal of Psychology. Vol. xxvii., No. 2. **W. S. Foster and K. Roese.** 'The Tridimensional Theory of Feeling from the Standpoint of Typical Experiences.' [Experiments on harmonical tones (paired comparisons) with observers trained in accordance with Wundt's directions. There is no evidence of Wundt's theory; judgments are apparently made on the basis of sense-feelings.] **A. J. Todd.** 'Primitive Notions of the "Self".' [Deals with the factors (name, shadow, soul or dream-double, property, group) and metamorphoses of the self. The sense of self is essentially social, and its psychological constitution reflects all aspects of the functional unity of mind.] **G. F. Arps.** 'A Marked Case of Double Inversion.' [Case of a boy of seven, of bad heredity, who writes upside-down and backward. The horizontal error is the more obstinate. In education, visual anomaly has to be subordinated to (and correlated with) normal tactual perception.] **S. H. Bliss.** 'The Significance of Clothes.' [Covering, appendages, ornaments, characteristic of subhuman life, survive in man as sub-conscious dispositions, and are actualised in varieties of clothing.] **H. T. Moore.** 'A Method of Testing the Strength of Instincts.' [First report of an attempted measure of ten traits by the association-reaction method.] **E. J. G. Bradford.** 'Measures of Variability.' [The MV measures individual improvability rather than variability. There is a positive relation between ability and improvability; none between ability and variability; a negative relation between variability and improvability (two tests of two groups of subjects).] **E. S. Abbott.** 'The Causal Relations between Structure and Function in Biology.' [Mechanically structure, teleologically function is determinant.] **M. Luckiesh.** 'A Note on Colour Preference.' [Colours are preferred whose dominant hues are near the limits of the spectrum, whose tints are relatively low, and whose chromas are relatively high.] **J. C. Chapman and W. J. Nolan.** 'Initial Spurt in a Simple Mental Function.' [Proof of spurt in test of continuous addition for fifteen minutes (seven trials).] **S. W. Fernberger.** 'The Effect of Practice in its Initial Stages in Lifted-Weight Experiments and its Bearing upon Anthropometric Measurements.' [It is necessary to make fifty determinations upon every comparison-pair.] **E. B. Titchener and H. P. Weld.** 'Minor Studies from the Psychological Laboratory of Cornell University.' **E. M. Alspach.** 'xxvii. Simplicity *versus* Complexity of Colour Hues.' [Three types of experiment bring out the psychological simplicity of the intermediate colours and of green.] Book Reviews. Book Notes. **S. W. Fernberger.** 'A Laboratory Note.' **Editors.** 'Oswald Külpe, 1862-1915.'

Zeitschrift f. Psychologie. Bd. lxxiv., Heft 5 und 6. **H. Henning.** 'Der Geruch, ii.' [There is no compensation of odours. Dual stimuli give rise, according to circumstances, to various sensory experiences: combination, succession, coincidence, duality, rivalry, suppression. Any odour may fuse with any other; non-odorous components of a complex (taste, pressure, temperature, sting) show various phenomena of fusion and rivalry according to knowledge, attention, etc. Odours may be

divided into pleasant and unpleasant; the feeling-tone is strong, and modifies the sensory experience; mixed feelings occur. The olfactory memory-type is rare; olfactory ideas are more frequent than is usually supposed, and may be cultivated (evocation of visual image, etc.). Weber's law is approximately valid; appearances to the contrary are due to peculiarities of the stimulus.] Literaturbericht.

'SCIENTIA' (RIVISTA DI SCIENZA). Series ii. Vol. xviii. Part 6. December, 1915. **G. Loria.** 'L'infinito e l'infinitesimo secondo i matematici dell'antichità.' [Historical sketch of the treatment of the infinitely small and the infinitely great by the Greeks. This article does not go very deeply into the matter. It is a mistake to speak of Zeno as 'living a little time after that of Democritus' (*'ben noto filosofo di poco posteriore a Democrito'*): Democritus was a disciple of Leucippus who in turn was a disciple of Zeno, and Democritus spoke of the doctrines of Parmenides and Zeno in his works. It may be mentioned that the relative dates of Zeno and Democritus are correctly indicated in Loria's book, *Le Scienze esatte nell'antica Grecia* (second edition, Milano, 1914, pp. 56, 65). Further, it is a mistake, as is very strongly shown by the work of Tannery and others, to refer only to the first two arguments of Zeno. This omission was not made in the author's book just cited. A further article will consider the revival of the scientific work on the subjects considered after the period of ignorance of the Middle Ages.] **Ch. Fabry.** 'Les atomes lumineux et leurs mouvements. 1ère Partie: La constitution de l'atome lumineux.' [This is a continuation of the author's article in the preceding number of *Scientia*. The notion of atom loses more and more its etymological meaning, for everything leads us to consider it as something very complicated. The constitution of the atom is written in characters which we are as yet far from being able to read easily.] **W. H. Bragg.** 'The New Crystallography.' ['The analysis of crystalline structure by the X-ray spectrometer opens up an entirely new method of describing the characteristic features of crystals. The new stands to the old in much the same relation as biological to systematic botany. Crystallography has hitherto consisted mainly in the relation of the outward forms of crystals, in the measurement of the angles made by the faces with each other, and especially in the observation of the particular degrees of symmetry which are present. . . . The new methods enable us to discover the actual arrangement of the atoms within a crystal showing us the fundamental characteristics of which outward form is a mere manifestation and consequence. By their aid we learn how atoms tend to arrange themselves so that their mutual forces are in equilibrium, and so we obtain information about these forces from a point of view which is not only new but is also far closer to what we want to see than any point which has so far been within our power to reach. The forces which bind atoms together are of course those which govern the formation of compounds, so that the new work is of prime importance to both chemistry and physics. The determination of crystal structure becomes more than mere observation of form,—an isolated and special study,—it becomes a means of increasing atomic and molecular science and links itself up with the main lines of advance of the present day.'] **R. Muir.** 'The Problems of the Future Peace.' [Preface to the English edition of Rignano's essay on *The Causes of the War and the Problem of Peace*, of which the Italian original appeared in *Scientia* for June and July, 1915. The preface is not much occupied with praising the many just and finely expressed things which Rignano said, but is, as Rignano wished, a perfectly frank criticism of whatever seemed disputable in the arguments and conclusions.]

IX.—CORRESPONDENCE.

In the January number of Mind a footnote appeared which it is as well to quote in full :—

"Dr. Mercier originally included in the above article an extended reply to Mr. Shelton's charge of plagiarism and other personal accusations. I have requested him to omit this reply on the ground that a continuance of such personalities in the pages of Mind is intolerable. In fairness to Dr. Mercier it is necessary to add that, in the opinion of the Editor, Mr. Shelton's charge of plagiarism is utterly baseless, and that his abusive language was quite unjustifiable and in every way regrettable. The Editor apologises to readers of Mind and to Dr. Mercier for having allowed such language to appear" (Mind, N.S., No. 97, p. 83).

A note of this character would appear to call for an explanation from me. Those who have read the discussion referred to will understand that I do not propose to make any elaborate defence of anything I have published either in Mind or in the *Nineteenth Century*. For them it will be sufficient if I say that I am prepared to repeat everything that I have published and that I have nothing to withdraw or defend. A few words are necessary in view of the fact that many who have read the note will not have read the previous discussion.

The Editor is pleased to talk about my "charge of plagiarism". That is not a correct description of anything I wrote. For several years past (since the year 1908) I have, in private discussion, in philosophical articles and papers, in a thesis offered to London University, of which sections have been published in several journals,[1] and in other ways continually urged that the branch of logical theory commonly described as methodology should be a subject having a direct practical bearing on the problems of science. I have, moreover, in several investigations, shown by examples that such a treatment of the subject, if undertaken by one sufficiently competent, can give results of considerable scientific value. In this attitude towards logical theory and towards science, I have encountered opposition from most of those commonly regarded as competent to judge and have received very little support. It follows therefore that anyone who adopts similar ground, whether competently or incompetently, successfully or unsuccessfully, must take account of my work. Anyone who fails to do so is open to the suggestion of plagiarism. It may happen that the individual in question applies the principle in ways with which I agree or in ways with which I disagree. He may agree with my applications or he may disagree. All this is irrelevant. He ought to be aware that the general position is one specially characteristic of a writer who was in the field before him, and, if aware, he should make due mention of the fact. These remarks are of general application to all concerned. So far as I am aware, they concern Dr. Mercier only with regard to the article he published in the *Nineteenth Century* in February, 1915.

[1] The central part of that thesis, much of it printed verbatim, appeared in the *Proceedings of the Aristotelian Society*, 1913-1914.

It is necessary for me to say publicly that the discussion referred to in the Editor's note was accepted by the Editor without protest and that I was not asked to modify it in any particular. He has the power of requesting that any feature to which he objects should be deleted, a power he neglected to use, either with me or with the previous articles by Dr. Mercier to which mine were a reply. I make no personal complaint of Dr. Mercier's language. It does not hurt me. But anyone who will read the whole discussion, both here and in the *Nineteenth Century*, will not accuse me of the more violent language.

H. S. SHELTON.

[It is true that Mr. Shelton does not speak of a "charge" but of a "suggestion" of plagiarism. But the suggestion seemed to me to be made in such a way as to place Dr. Mercier on his defence. He was virtually called on to clear himself on pain of being presumed guilty of plagiarism. Such a suggestion may be correctly called a charge. If and so far as the word "charge" may have conveyed a wrong impression (though I do not see how it could) I am sorry. The "suggestion" of plagiarism seemed to me baseless for the following reasons. The general idea of applying methodology directly to scientific problems cannot be claimed as novel by anyone at the present day. It is easily found in Descartes, Bacon, and Hobbes, and it probably suggests itself to most serious students of logic at some stage of their reading. Originality and novelty must therefore consist in pointing out new and specific ways of applying methodology in the present state of the sciences. Mr. Shelton claims to have done this, and I do not dispute his claim. What I affirm is that any serious charge of plagiarism must be founded on specific agreements so close and detailed as to make independent coincidence highly improbable. But Mr. Shelton, in his MIND discussion, so far from showing such agreements, indicates that in specific detail there is wide divergence between him and Dr. Mercier. With what he may have said elsewhere than in MIND I have no concern.

The reader must be left to judge for himself whether such a passage as that in which the words "noisy quack" occur is or is not abusive in the sense that it is personally insulting to Dr. Mercier. It may well be that Mr. Shelton did not realise in how offensive a sense his words would be naturally taken, and in particular that he did not realise how peculiarly offensive the word "quack" is when applied to a medical man, even though the application is to his logical work and not to his medical practice.

It is true that I ought to have asked Mr. Shelton to withdraw what he had written before publication. I apologise to him for failing to do so.—EDITOR.]

TO THE EDITOR OF "MIND".

SIR,—

May I reply in a few lines to Mr. De Laguna's heated attack on my notice (MIND, N.S., 95, pp. 421-422) of his *Introduction to the Science of Ethics*? I may say that this notice was quite different in character from what Mr. De L.'s language about it might suggest. It was in the main quite appreciative, though Mr. De L.'s curt declaration that "the remarks on the constructive portion of my work are at variance with fact" would lead an ordinary reader to suppose that he had been subjected to a savage and unscrupulous attack.

As to the particular points on which I am challenged, I must repeat my original assertions. I still consider it false to say "that Plato" ever

"tells the philosopher to put himself in a sphere where courage, temperance and even justice have no place". (I do not admit that my purely accidental omission from the sentence of the words "as far as he can" affects the issue.) If Plato ever tells the philosopher to do this, with or without a qualifying clause, why does not Mr. De L. confute me by quoting the passage? (As to the reference to *Republic*, II., Mr. De L. should have seen that II. is here a mere printer's error for VI.) I still hold that there is no justification for crediting Plato with "unmixed contempt for the masses of mankind". (I am obliged to Mr. De L. for pointing out the slip I made in writing *mass* for *masses* in my notice.) If there is evidence to justify this accusation "throughout the dialogues from the *Gorgias* to the *Laws*," why does not Mr. De L. quote some of it instead of indulging in guesses about my personal political leanings, which are impertinent both in the literary and in the colloquial senses of the word?

To my criticism that in the historical summary of Plato's *Ethics* no account has been taken of the *Philebus* or *Laws*, or apparently of any part of the *Republic*, except Book IV., Mr. De L. makes a rejoinder which is partly insufficient, partly irrelevant. He says that he neglected the *Philebus* and *Laws*—which is much like neglecting the *Critique of Pure Reason* in a professed account of Kant's metaphysics—on purpose. But my point was that neither he nor any other man has the right to call anything which neglects these works of principal importance an account of "Plato's Ethics". There can be no "pædagogic" justification for giving a *false* statement of Plato's views on Ethics, though I could understand "pædagogic" reasons for not giving any statement at all. As to Mr. De L.'s retort on the other point, that he *had* used *Republic* IX. in his discussion of differences of quality among pleasures, it is quite irrelevant. I did not say that he had made no use of other books of the *Republic* than IV., but that he had not used them in his "account of Platonic Ethics". A writer who overlooks so important a qualification in a criticism to which he makes a reply is hardly entitled to adopt the tone Mr. De L. has thought it becoming to employ.

A. E. Taylor.

July, 1916.

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